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A STUDY OF THE RELATIONSHIP BETWEEN
SCHOOL ORGANIZATIONAL BEHAVIOR AND THE
VARIABLES OF BUREAUCRATIZATION AND LEADER ATTITUDES

by

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A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "A Study of the Relationship Between School Organizational Behavior and the Variables of Bureaucratization and Leader Attitudes" submitted by Terence Russell McKague in partial fulfilment of the requirements for the degree of Doctor of Philosophy.

ABSTRACT

The purpose of this study was to investigate the relationship between two selected variables and school organizational behavior. The types of behavior examined were those of teachers in secondary schools. From among the many organizational variables which could serve to influence these behaviors, two were selected for use. One was related to the structure of the organization while the other reflected the attitudes of the leader.

As a framework for ordering these variables, Lewin's model of behavior as a function of personality and environment was employed. Considered to be aspects of environment and personality, the variables of bureaucratic structure and the leader's esteem for his least preferred co-worker were conceptualized as independent variables. Related to these as dependent variables were certain behaviors of teachers and principals. Four major hypotheses were proposed regarding the relationships among these variables

In order to test these hypotheses, principals and teachers in thirty-nine high schools in the province of Saskatchewan completed questionnaires which measured (1) the behavior of teachers and principals as defined by the eight subtests of the Organizational Climate Description Questionnaire, (2) the degree of bureaucratization of the school according to the School Bureaucratic Index, (3) the principal's attitude toward his least preferred co-worker (LPC) and (4) the affective orientation of the staff toward the principal (GA).

Although correlations between the total bureaucratic score and the four behaviors of teachers were not significant, use of the factor scores of a varimax rotation of the School Bureaucratic Index and a multiple regression design indicated that bureaucratization was positively related to Hindrance and Production Emphasis and negatively related to Thrust, Consideration, and Esprit. This suggested that principals in highly bureaucratic schools were more concerned with the efficient operation of the school than with the satisfaction of the staff.

Relationships between principals' LPC scores and four aspects of their behavior, though not significant, provided a picture of the low LPC principal which was consistent with previous research. These principals emerged as dynamic kinds of individuals who were concerned with the problems of teachers as much as with the achievement of goals.

Teachers, it was found, responded to this type of leadership in a definite manner, provided the behavior of such principals was considered acceptable to them. This degree of acceptance was determined by GA scale scores which were used to classify schools as high or low. It was found that principals who were accepted by their staffs (high GA) and whose behavior tended to be directive and managing (low LPC) were found in schools where teachers experienced a high degree of morale (high Esprit), enjoyed friendly social relations with one another (high Intimacy), did not feel burdened by administrative responsibilities (low Hindrance), and were not out of touch with the functions they were expected to perform (low Disengagement).

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

Fundamental to the administration of educational institutions is a knowledge of the behavior of educational personnel and an awareness of the variables, individual and organizational, which might influence that behavior. An administrator should not only be aware of the desirability of the behavior of those around him; he should also be cognizant of the variables which act as determinants of that behavior. Over some of these variables, such as the beliefs and values of his staff, he may have little control. The administrator may, however, be in a position to modify other variables significantly. An understanding of organizational variables and their relationship to the behavior of educational personnel would seem to be of considerable value for the successful administration of schools.

This study is concerned with the behavior of teachers and principals in large secondary schools and with the organizational variables which are associated with such behavior. The type of behavior to be investigated occurs primarily outside the classroom, taking place where teachers gather informally, in the staff room or the halls, as well as in the more formal settings of staff meetings and principal-teacher confrontations. Although such behavior affects the teaching-learning process indirectly rather than directly, it does have an influence on the way the school accomplishes its tasks.

II. CONCEPTUAL FRAMEWORK

At one time, psychologists investigating human behavior focused almost exclusively on the characteristics of the individuals being studied. They largely ignored the environmental variables comprising the situation in which the behavior was taking place. One of the first to emphasize the importance of both the individual and his environment was Kurt Lewin (4). The most fundamental concept for Lewin was that of the psychological "field" or life space. He considered all psychological events to be a function of the life space, which consisted of the person and the environment in mutual interaction. Human behavior was conceived to be determined, not by isolated properties of the individual or his environment, but by the coexisting facts which made up the life space, facts which derived from the momentary condition of the individual and the structure of his environment (1, p. 185).

Since Lewin's time it has become increasingly evident that behavior must be examined with reference to both the person and his environment. It has been this realization--that understanding behavior requires not only a knowledge of the person but also knowledge of his immediate situation--which has guided much of the work of social psychology.

The terminology Lewin used to illustrate his theory is summarized by Deutsch (1). He states that Lewin employs the concept of life space (or "psychological field" or "total situation") to refer to the manifold of coexisting facts which determine the behavior of the individual at a certain moment. The term "person" refers to properties of the individual which in interaction with the environment produce the life space. By

"environment" Lewin means the objective situation which is presented to the individual at a given moment and which is conceived to be the situation as it "exists" for the individual.

Using these concepts Lewin derived the formulation that behavior is a function of the life space: $B = f(L S)$. Since the life space is in turn a product of the interaction between a person (P) and his environment (E), the expression becomes $B = f(P, E)$. Behavior, then, is seen as a function of both Person and Environment.

Since Lewin first formulated his theory the term (P) in his expression has taken on the meaning of Personality rather than Person. It is generally regarded as referring to those relatively stable and enduring characteristics of the individual which exist regardless of the situation. While acknowledging the importance of the (P) in Lewin's formulation, social psychologists have tended to overlook personality factors in their concern with environmental variables. They have concentrated on human behavior as it is affected by social phenomena, such as small group interaction, mass media, leader behavior, mob psychology, status differentials, and organizational variables.

Figure 1 illustrates the factors of Lewin's formulation as they would be applied to organizational behavior.

Organizational behavior in this study consisted of teachers' behavior and principals' behavior. Related to teacher behavior were two variables which were conceptualized as environmental in nature since they served to define the situation in which the behavior of teachers occurs. These were the perceived bureaucratic structure of the school and the degree to which the principal's esteem for his least

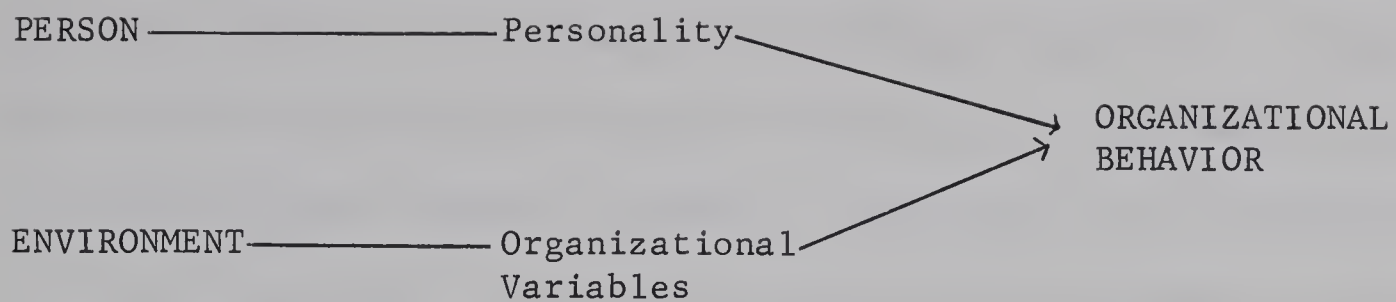


FIGURE 1

DETERMINANTS OF ORGANIZATIONAL BEHAVIOR

preferred co-worker is reflected in the directiveness or permissiveness of his behavior. Related to the behavior of principals was a variable considered to be descriptive of the (P) in Lewin's formulation--the attitude of the principal toward his least preferred co-worker.

The purpose of this study is to examine the relationships among these variables. Before the problem can be more clearly delineated, however, more detailed mention should be made of the variables to be investigated.

The Dependent Variables

The behavior of teachers and principals in high schools comprised the dependent variable of the study. Recognizing that adults in schools engage in a great range of behaviors, it became necessary to delimit the types of behavior to be investigated. Two criteria were applied. First, the behavior to be examined should be considered important for the functioning of the organization, and second, according to theory and research, such behavior should be related to the independent variables to be examined.

One investigation of such behavior had already been carried out under the auspices of the Midwest Administration Center (3). In the early 1960's Halpin and Croft investigated factors which might contribute to the organizational climate of schools. They limited their research to the "social component" of a school, conceptualizing climate in terms of the behavior of teachers and principals. Beginning with a mass of information describing a great array of behaviors, they employed an iterative approach to arrive at their final scale, the Organizational Climate Description Questionnaire. This instrument was multidimensional in nature and consisted of eight subtests, four describing teacher behavior and four describing the behavior of the principal. When these subtests were combined to form a profile, the organizational climate of schools as conceptualized by Halpin and Croft could be determined. It is these subtests which provided the dimensions of school organizational behavior which were examined in this study.

The four teacher behaviors measured by the OCDQ are entitled Disengagement, Hindrance, Esprit, and Intimacy. Disengagement describes the behavior of teachers which could be considered detrimental to the achievement of the goals of the school. It is characterized by mannerisms, such as seeking special favors or opposing majority opinions, which are found annoying by other teachers. Hindrance refers to feelings among teachers that they are being burdened with administrative paper work and committee requirements. Esprit is similar to morale, a feeling that both social needs and task accomplishment are being satisfied. Intimacy refers to teachers' enjoyment of friendly relations with one another.

The behaviors of the principal which were examined are Aloofness, Production Emphasis, Thrust, and Consideration. Aloofness describes behavior of the principal which is considered to be formal and impersonal. Production Emphasis refers to behavior characterized by close supervision of the staff in order to ensure a high level of performance. Thrust is behavior which motivates teachers through the example of hard work which the principal sets. Consideration refers to behavior by which the principal takes an interest in his staff as persons and not merely as employees and attempts to do something extra for them in human terms.

The characteristics of these behaviors will be discussed in more detail when their hypothesized relationship to the independent variables is examined.

The Independent Variables

Basic to all research in the area of organizational theory has been the assumption that organizational variables have an effect on organizational behavior. What members of an organization do within the organization has been considered to be a function, in part at least, of certain features of the organization. Organizational variables are those which would be included under Lewin's category of Environment in that they define the situation in which the individual finds himself, thus serving as a context for the behavior in which he engages.

There are many characteristics of an organization which could serve to influence the behavior of its members. These might include the communications network, the type of authority structure, the decision-making process, the amount of change characteristic of the organization, and its relationship to the environment. It would be impossible in one study to examine the effects of all such variables. Therefore, two were

/

selected for investigation in this research. They constitute the independent variables of the study.

The first independent variable examined was the degree to which the organizational structure of the school was perceived to be characterized by certain bureaucratic features. Included among these were the authority structure, controls and sanctions, impersonality, rules and regulations, specialization, and technical efficiency. The bureaucratic structure of the school was related to the dependent variables describing teacher behavior: Disengagement, Hindrance, Esprit, and Intimacy.

The second independent variable examined was the principal's attitude toward his least preferred co-worker. Studies have found that this quality in a leader is related to the degree of directiveness or permissiveness he displays toward subordinates (2). This factor was related to the following dependent variables: the behavior of the principal as described by the dimensions of Aloofness, Production Emphasis, Thrust, and Consideration; and the teacher dimensions measured by the Organizational Climate Description Questionnaire.

Figure 2 summarizes the dependent and independent variables and the relationship between them.

The Problem Delineated

The general problem to which this study was addressed is this: Are organizational variables related to the behavior of organizational members, and if so, to what degree?

Emerging from this basic problem are the following sub-problems:

1. Is there a relationship between the degree of bureaucratization perceived to exist in a school and the following behaviors of teachers:

Disengagement, Hindrance, Esprit, and Intimacy?

2. Is there a relationship between the principal's attitude toward his least preferred co-worker and the following kinds of behavior he is perceived to engage in: Aloofness, Production Emphasis, Thrust, and Consideration?

3. Is there a relationship between the principal's attitude toward his least preferred co-worker and the kinds of behavior engaged in by teachers along the dimensions of Disengagement, Hindrance, Esprit, and Intimacy?

4. Is the relationship stated in sub-problem 3 mediated by the degree of affective orientation of the staff toward the principal as measured by the Group Atmosphere Scale?

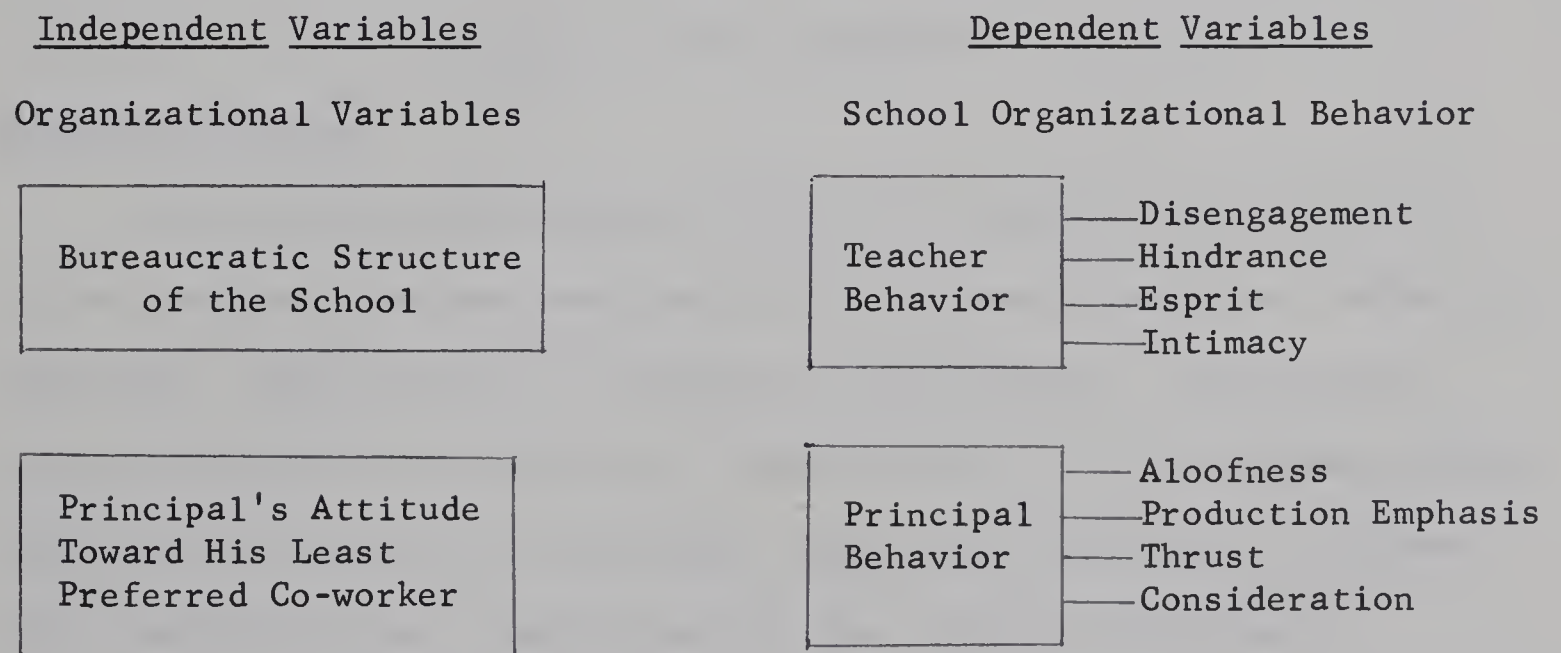


FIGURE 2

VARIABLES EXAMINED IN THE STUDY

III. DEFINITION OF TERMS

School Organizational Behavior

This is a general term referring to the behavior of teachers and principals as it occurs in school organizations.

Teacher Behavior

This refers to teachers' perceptions of the degree to which the items of the Organizational Climate Description Questionnaire measuring Disengagement, Hindrance, Esprit, and Intimacy are descriptive of the teachers of the respondents' own school.

Principals' Behavior

This refers to the teachers' perceptions of the degree to which the items of the Organizational Climate Description Questionnaire measuring Aloofness, Production Emphasis, Thrust, and Consideration are descriptive of the principal of the respondents' own school.

Bureaucratization

This refers to the degree to which an organization is perceived by its members to be characterized by the following features: Authority, Hierarchy, Categorization of Problems, Centralization, Common Goals, Controls and Sanctions, Formality, Impersonality, Lines of Communication, Objectivity, Oligarchy, Professional Expertise, Rationality, Routines, Rules and Regulations, Specialization, and Technical Efficiency.

Bureaucratic Structure of the School

This refers to the degree to which the formal organization of a school is bureaucratized.

LPC

This refers to a principal's esteem for his least preferred co-

worker, an attitude measured by the Least Preferred Co-worker Rating Scale.

GA

This is the degree of group acceptance which the staff of a school accords the principal's behavior, and is measured by the Group Atmosphere Scale.

IV. LIMITATIONS

The Organizational Climate Description Questionnaire was used in this study not as a means of assessing the organizational climate of schools, which was its original purpose, but as a means of describing the behavior of teachers and principals. It is also recognized that the items of the questionnaire which make up a particular subtest do not always seem to correspond to the description Halpin and Croft provide of what the subtest purports to be measuring. Despite this apparent lack of face validity in some instances, the subtests in their present form do describe aspects of school organizational behavior considered to be important for the functioning of a school.

The concepts of LPC and Group Atmosphere were used in this study apart from their context in Fiedler's contingency model (2). While in one sense this can be considered a limitation, the use of these instruments in this research should increase an understanding of the meaning and interpretation of these concepts.

V. ORGANIZATION OF THE THESIS

The following chapter deals with the two independent variables of the study--bureaucratization and leader attitudes. In each case the concepts are discussed, related research introduced and hypotheses formulated. Chapter III describes the instruments used in the study including their development and their reliability and validity. It also discusses the sample of schools used in the study and the procedures used to administer the instruments in these schools.

The following four chapters are concerned with statistical analyses on the data. In Chapter IV a number of analyses carried out on the data of the instruments are described. The testing of the hypotheses is discussed in Chapters V and VI. Chapter VII provides an extension of the hypotheses testing through the use of multiple regression.

The final chapter of the thesis provides a summary of the study, general conclusions, and an indication of the implications of the findings for the practice of administration and for further research.

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CHAPTER II

RELATED RESEARCH

In this chapter theory and research related to the variables of bureaucracy and leader behavior are discussed and relationships between these variables and the behaviors of teachers and principals are hypothesized.

I. BUREAUCRATIZATION

Blau's contention that "modern man is man in organizations" (8, p. ix) is increasingly being replaced by the realization that modern man is man in bureaucratic organizations. The unprecedented growth of large-scale organizations characterized by hierarchical administration and division of labor is descriptive of twentieth-century society, encompassing institutions devoted to religion, social welfare, scientific pursuits, and education. Responding to the task of supplying more people with greater amounts of education, today's schools have tended to become increasingly bureaucratized. Growth in their size and complexity has brought the apparent need for more internal coordination, more specialization, more standardized routines, and more centralization of decision-making. The examination of these bureaucratic features and their consequences for organizational members has become a significant area of study for educational administrators.

Bureaucracy

A bureaucracy may be defined as "the type of organization designed to accomplish large-scale administrative tasks by systematically

coordinating the work of many individuals" (9, p. 14). The classical theory of bureaucracy was developed by Max Weber, who conceived of bureaucracy as the most efficient form of administrative organization. This is due to the fact that employee performance disciplined by rules and procedural specifications and coordinated by a hierarchy of authority promotes the most rational attainment of organizational goals.

Weber considered the following characteristics to be most descriptive of his ideal-type concept of bureaucracy (20, 31):

1. A well-defined hierarchy of authority.
2. A division of labor based on functional specialization.
3. A system of rules covering the rights and duties of employees.
4. Procedural specifications to deal with work situations.
5. Impersonality of interpersonal relations.
6. Promotion and selection based on technical competence.

Students of organizations in recent years have used the bureaucratic model as the basis for conceptualizing the system of inter-relationships in organizations. It has served as the point of departure for studies of the development and modification of organizational structure, the place of the individual within such a structure, and various associated problems.

Bureaucratic Structure and Organizational Behavior

Recognizing the heuristic value of Weber's concept of bureaucracy, various writers have attempted to develop theoretical models relating the structural patterns of organizations to the personality, behavior and attitudes of organizational members. Basic to their theories has been the belief that bureaucratic structures do have an impact on the way organ-

izational participants carry out their duties. As Dimock states, "Any institution may prove bureaucratic, and since individuals are molded by their environments, they also take on bureaucratic coloration" (39, p. 39).

In almost every case the effect of bureaucracy on the individual and subsequently on the organization is seen to be less than desirable. These writers have concentrated on what Weber largely overlooked--the dysfunctional aspects of bureaucracy--the unanticipated consequences of bureaucratization which tend to militate against its efficient and rational operation. Most of their theories have been based on learned conjecture rather than on empirical evidence. Many have never been tested directly. This study is intended to add some new evidence to the growing body of research data being accumulated regarding the effects of bureaucratization on organizational members.

Robert K. Merton's article, "Bureaucratic Structure and Personality" (38) was one of the first to focus attention on the undesirable consequences of bureaucratic organizations. To the concepts of "trained incapacity," "occupational psychosis," and "professional deformation," Merton added the term "overconformity." This results when members' concern with adherence to rules and formalized procedures interferes with the purpose of the organization and becomes an end in itself. As consequences of this displacement of goals, rigidity replaces flexibility and ritualism destroys efficiency. Overconformity thus contributes to the image of bureaucracy conjured up by most people, that of gross inefficiency and "red tape."

Gouldner (22) also concerned himself with the consequences of bureaucratic rules. He claimed that the demand for control by the hier-

archy of an organization results in general and impersonal rules to regulate work procedures. Because these rules define unacceptable behavior, members of the organization soon learn what is regarded as minimum acceptable behavior. Since hierarchical superiors consider performance at the minimum level unsatisfactory, they increase their supervision. Closeness of supervision enhances the visibility of power relations within the organization and raises the level of interpersonal tension, thus upsetting the equilibrium originally based on the institution of rules.

The theories of Merton and Gouldner are only two which concern themselves with what has been called the "social pathologies" of bureaucracy. Other writers make the following claims: (1) Bureaucratic features create a tendency to avoid responsibility (Davis, 39, p. 380); (2) The security of members in bureaucratic organizations results in lassitude and managerial slothfulness (Dimock, 39, p. 400); (3) Employees, dependent on their superiors for advancement, are reluctant to bring their problems to the attention of their superiors for fear their ratings would be adversely affected (Blau, 9, p. 50); (4) Hierarchical authority creates differentiated status positions which result in invidious comparisons of individual contributions and status anxiety (Presthus, 44, pp. 36-38).

More comprehensive in scope and more interdisciplinary in nature are the organizational theories of Argyris (2, 3, 4, 5) and Presthus (43, 44). They represent the viewpoint expressed in modern organization theory that there is an inherent conflict between the needs of individuals and the requirements of organizations. These writers concern themselves with the impact of large organizations on the

individuals who work in them and the means by which these individuals accommodate to organizational demands.

Studies in Bureaucracy

Formulations of bureaucratic features have been investigated in many types of organizations. A study by Stinchcombe (47), for example, compared the organization of construction and mass production industries in the United States. He discovered that while both industries displayed rational features, construction companies exhibited a small degree of bureaucratization in comparison to mass-production agencies. Hall (25, 26) constructed an instrument based on Weber's dimensions to investigate bureaucratization in different kinds of commercial and governmental organizations. His findings were that organizations differed in their degree of total bureaucratization and that individual organizations displayed differing degrees of bureaucratization along the dimensions he investigated. As examples of other types of bureaucratic organizations, welfare agencies (8), the military (15) and the church (42) have been examined.

Educational Research in Bureaucracy

A study by Moeller (40) carried out in the early 1960's investigated the bureaucratic features of school systems and their effect on teachers. His major hypothesis, that bureaucracy in school systems creates in teachers a sense of being powerless to affect school system policy, was not confirmed. Rather, evidence indicated that bureaucratization in school system organization was associated with a greater, not a diminished, sense of power among teachers.

This finding was explained in terms of the degree of rationality

and predictability inherent in bureaucratic organizations. If a teacher knows what the prescribed course of action and lines of communication are and what the policy is on a particular issue, he will be in a much better position to influence events than if he is not able to predict what action the administration will take (13, p. 240).

The major purpose of a study by Keene (33) was to examine differences in the structure of school organizations of varying size. In order to do this Keene developed indices which would assess the degree of standardization and complexity exhibited by twelve high schools in Illinois. These variables were measured through interviews with principals and examination of policy handbooks and school files.

The secondary purpose of the study was to investigate the effects on teachers of the degree of complexity and standardization exhibited by the school, in other words to determine what happens to operational freedom in complex organizations. To examine this aspect of the study Keene selected four schools of differing size and interviewed a few teachers from each school. These interviews revealed that most teachers were jealous of those things which limited their ability to exercise independent judgment in areas for which they were trained. It was found, however, that in most schools informal teacher groups interposed themselves between the individual and the organization to protect teachers from a loss of autonomy.

The research carried out by MacKay (34) was the first study of elementary-junior high schools as bureaucratic organizations. The instrument used to measure the degree of bureaucratization in thirty-one Alberta schools was based on the six Weberian dimensions of bureaucracy.

MacKay found that schools differed in their degree of bureaucratization on four of the dimensions studied. At the same time, however, it was concluded that "the traditional bureaucratic model was not generally descriptive of the schools studied" (34, p. v).

One of the purposes of the study was to investigate the effects of bureaucratic structure on the performance of teachers, to the extent that this was reflected in students' marks on grade nine departmental examinations. When MacKay correlated the productivity of the schools with each of his bureaucratic dimensions, he found the most significant correlation to be $-.4046$ with Hierarchy of Authority, a dimension measuring the restrictiveness felt by teachers as a result of the authority structure of the school. MacKay concluded that "in a professional organization such as a school, well defined and emphasized authority relationships among staff members are not associated with productivity" (34, p. 151).

A recent study by Hartley (29) related bureaucracy in secondary schools to the local-cosmopolitan orientation of teachers and the criterion variables of teacher satisfaction, teacher judgments of their own effectiveness, and teacher conformity to organizational demands. Hartley found that the way a teacher perceived the bureaucratic structure of the school could not be used as a predictor of his satisfaction, effectiveness, or conformity, but that local or cosmopolitan orientation could be used as a predictor of these variables.

Importance of These Studies

The findings of MacKay's study (34) are important as a background for this investigation because (1) they reveal that schools differ in

their degree of bureaucratization, (2) they indicate that one of the major features of bureaucracy, hierarchy of authority, does seem to be related to pupil achievement, a factor which is influenced to some extent by the behavior of teachers, and (3) to this extent the assumption that the behavior of individual members of an organization is in some way related to the structural framework within which they work is supported.

Substantiating the fact that teacher behavior can serve as a reaction to the complexities of organizational structure are the findings of Keene's research (33). In most of the schools he investigated the characteristic response of teachers when faced with restricted freedom was to erect buffers between themselves and the administration through the formation of informal groups. Only when the fact of size impeded this practice did teachers resign themselves to the limitations imposed.

The studies carried out by both Moeller (40) and Hartley (29) provide a background for this study, not so much because of their findings, but because each discovered results which contradicted hypotheses supposedly derived from a review of related literature. It is because of inconsistencies such as these that a great deal more research needs to be carried out in schools. This is especially true since recent research indicates that the impact of the bureaucratic features of a school may not have the adverse effects on teachers that some theories would have us believe.

This study is concerned with determining the effects of the degree of perceived bureaucratization in secondary schools on four dimensions of teacher behavior. The following section indicates theory and research from which hypotheses are derived regarding the relationship between

bureaucratization and each of these dimensions.

Bureaucratic Structure and Teacher Behavior

Disengagement. In defining the concept of Disengagement, Halpin (27) states that it corresponds to the more general concept of anomie as first described by Durkheim. Durkheim used this term to refer to a state of normlessness or the collapse of rules of conduct, resulting in a feeling of dissociation from self, from others, or from the world at large. An examination of the items measuring Disengagement, however, immediately calls into question the degree of correspondence between these concepts. While anomie reflects a state of mind resulting from the breakdown of supporting structures in society, Disengagement measures specific behaviors engaged in by organizational members, behaviors which do not seem to represent a feeling of dissociation from self, from others, or from the world at large.

It would seem that the relationship between Disengagement and anomie, as posited by Halpin, does not hold true at least on the basis of one research study done in schools. This is the portion of the OCDQ validity studies devoted to relating the subtests of the Leader Behavior Description Questionnaire, Form XII, to the dimensions of the Organizational Climate Description Questionnaire (1, p. 328). This study indicates that Disengagement is negatively related to the subtests Tolerance of Uncertainty, Tolerance of Freedom, and Demand Reconciliation. The principal who displays these characteristics is able to tolerate uncertainty and postponement without anxiety or upset. He allows teachers scope for initiative, decision and action, and is able to handle complex problems efficiently. To the extent that the

behavior of the principal is instrumental in influencing the degree of bureaucratization in a school, the above characteristics would indicate that a low degree of bureaucratization is associated with a decrease in Disengagement.

The reason for this seems to be that because of their presumed competence in their special field, most teachers feel they should be restricted as little as possible in the activities in which they engage on the job. Disharmony is created when this expectation is confronted by the propensity of bureaucratization to control the actions of organizational members. As a result, the deviant behavior characteristic of Disengagement becomes more pronounced in an organizational setting which is perceived by teachers as restricting initiative and freedom. In trying to control deviant behavior, the bureaucratic organization actually creates a situation in which members feel inhibited from doing things as they want and, therefore, adopt socially undesirable means to express their needs, aspirations, and dissatisfactions. It is on the basis of this rationale that a direct relationship between bureaucratization and Disengagement will be postulated.

Hindrance. The degree to which teachers feel hindered by the burden of routine duties, committee demands, and other requirements might seem to be related more meaningfully to the size of the school than to its degree of bureaucratization. Mason Haire (24), developing theory based on biological models, points out that when an organization increases in size, it is the staff function which increases most markedly. As the organization gets larger the amount of clerical work increases in order to meet the pressure for information, this desire

for information resulting because coordination and control are most threatened by growth.

Because educational organizations deal primarily with people, an increase in organizational size results in more need for control and coordination of these people. Thus more information is required. One of the first things which usually occurs in a school when its pupil population expands is the hiring of a new secretary. The desire for information, however, usually extends to the teachers, who then become the recipients of notices, memos and announcements, and who in turn are required to fill in forms, record marks, summarize results, and meet deadlines. To many teachers this administrative work is objectionable. They often perceive their function as that of teaching and nothing more, and they cannot see themselves wasting their time and training in performing functions for which they can see little value.

Hartley's study (29) indicated that organizational size appeared to be closely related to the degree of bureaucratization in a school. He concludes that the size of a school is related to the number of bureaucratic elements present. Teachers in his study indicated a belief that an increase in the number of students and teachers was accompanied by an increase in rules, impersonality, specialization, formality, centralization, and other bureaucratic elements.

Even though the degree of bureaucratization of a school appears to be related to its size, and although increased size usually results in a need for more information from organizational members, it does not necessarily follow that teachers in more bureaucratic schools are going to feel any more inhibited by routine duties or burdened with admini-

strative paper work than teachers in less bureaucratic schools. Indeed, if one of the chief aims of bureaucracy is to maximize efficiency, then the school administration which tries to promote an efficient and smooth-running school will attempt to lessen the interference to which teachers are subjected by eliminating as many of the sources of teacher hindrance as possible

This contention, however, has not received empirical support. Until evidence is available to the contrary, it must be assumed that the demand for control characteristic of bureaucratic organizations will exemplify itself in a desire for increased information, which in turn will result in feelings of hindrance among the staff. Therefore, it will be hypothesized that teachers in a more bureaucratic school will experience a greater degree of Hindrance than those in a less bureaucratic school.

Esprit. Of all the subtests measured by the Organizational Climate Description Questionnaire, Esprit is perhaps the most important. This is because in many relationships the measures of school climate indicated by the OCDQ act merely as somewhat blurred Esprit scores. This was a conclusion of Andrews (1, p. 333) in his validity studies of the OCDQ. If Esprit among teachers can be considered one of the most important aspects of the climate of a school, then it is of value to ascertain what factors in the organization may be associated with it.

Esprit, according to Halpin, refers to "morale." Efforts to define morale in operational terms have met with varying degrees of success, while attempts to measure morale and relate it to other organizational variables have proven quite successful. The one variable with which

morale has been consistently related is that of administrative behavior. Here the most striking finding is that morale is not related so much to the specific behavior of the administrator as it is to behavior which staff members expect from the administrator. As Chase puts it: "When teachers' expectations are fulfilled with regard to the leadership of administrators and supervisors, their morale soars; when their expectations are disappointed, morale takes a nosedive" (12, p. 1).

It would seem relatively simple, then, to gear leader behavior to the expectations of teachers. This might be true except for the fact that there is little consensus regarding what type of administrative behavior teachers find most satisfying. Chase's study indicated that teachers' expectations of leadership varied from community to community and were in part a response to the kind of leadership they had received. If teacher expectations of leader behavior are somewhat conditioned by the type of leadership to which they are accustomed, then it would seem to follow that teachers' expectations regarding the bureaucratic features of their school would be affected by the type of school organizational structure to which they were accustomed. Whether or not they approved of the degree of bureaucratization in the school would therefore depend on their expectations regarding how a school should be operated.

It is the contention of this study that teachers prefer working in an environment which allows them scope for personal initiative, where staff members are treated as responsible adults capable of making decisions and exercising influence. Teacher satisfaction in Sharma's study (46) was found to be directly related to the degree to which teachers participated in decision-making as individuals or groups. Bureaucratization

however, is characterized by features which tend to inhibit teachers' freedom by limiting their potential for making their own decisions and following their own procedures. Such features tend to militate against the desire most teachers have for increased autonomy and freedom of action. Since bureaucratization tends to create a work situation which is antithetical to the desires and expectations of most teachers, Esprit is likely to be reduced. An hypothesis stating an inverse relationship between these two variables seems, therefore, to be justified.

Intimacy. Most writers of organization theory seem to view the informal behavior of organizational members as a kind of refuge from the stresses and strains of life in the formal organization. However, little research has been carried out to attempt to determine whether different types of organizational structure result in different kinds of social relations exhibited by members. As Halpin maintains, and as the items measuring Intimacy bear out, this dimension is not necessarily associated with task accomplishment.

Nor does the behavior of the principal seem to have much effect on the interpersonal friendship of staff members. When OCDQ subtest scores were related to the twelve dimensions of the Leader Behavior Description Questionnaire, Form XII, Intimacy bore no significant relationship to any of them (1). If the behavior of the principal is related to the degree of Intimacy of his staff to such a limited extent, then it would seem unlikely that the degree of bureaucratization of the school would be significantly related either. Therefore, it would seem reasonable to suggest that bureaucratic features have no significant relationship with the degree of Intimacy found in a school.

Summary and Hypotheses

The first section of this chapter has dealt with theory and research concerning the concept of bureaucratization. Studies of different types of organizations, especially educational institutions, have been cited which lend support to the position that the behavior of organizational members is related to the degree of bureaucratization perceived to exist in the organization. Commenting on research arising from the theoretical models of Weber, Merton, Gouldner and Selznick, MacKay states that "basic to all of the studies has been the assumption that the behavior of individual members of the organization is in some way related to the structural framework within which they work" (35, p. 1).

It was on the basis of this theory that the following relationships between bureaucratic structure and teacher behavior were hypothesized:

Hypothesis I.1: The degree of bureaucratization of a school is directly related to the degree of Disengagement in that school.

Hypothesis I.2: The degree of bureaucratization of a school is directly related to the degree of Hindrance in that school.

Hypothesis I.3: The degree of bureaucratization of a school is inversely related to the degree of Esprit in that school.

Hypothesis I.4: The degree of bureaucratization of a school is related to the degree of Intimacy in that school.

II. LEADERSHIP BEHAVIOR

Introduction

The question of leadership has for a long time intrigued organizational theorists. In attempting to get a clearer understanding of this concept, researchers first focused on the leader himself and undertook investigations to identify qualities which distinguished leaders from non-leaders. Some studies attempted to discover a unitary leadership trait while others looked for a pattern of traits which constituted general leadership capacity. Eventual dissatisfaction with the trait approach gave rise to a view of leadership which stressed the characteristics of the group in which the leader was found and the situation with which the group must deal.

If leadership is thought of as a function of the group, then the leader must discover what is required by groups under various conditions and perform those functions necessary for the group to achieve its goals. Cartwright and Zander entitled the two basic types of group functions "goal achievement" and "group maintenance" (10), while Barnard (6) subsumed these functions under the headings of effectiveness (organizational achievement) and efficiency (individual satisfaction).

The situational approach to leadership supports the view that more must be involved than simply the leader and the group. Unless a certain situation exists, such as a problem to solve or a decision to be made, groups may not require leadership. Situational theory does not maintain that personal qualities of leadership are unimportant; neither does it state that situations automatically produce the leadership required. But it does maintain that personal qualities must be examined in the

context of a particular situation.

In summary, then, it seems that a number of factors may influence the range of styles which constitute leader behavior. These include (1) the qualities of the leader himself--his physical, intellectual and personality traits, (2) the characteristics of the group--its norms, values, and expectations regarding the leader's behavior, and (3) the situation in which the leader finds himself.

From among these variables one has been selected for examination in this study--the leader's esteem for his least preferred co-worker. This variable reflects the three major approaches to the study of leadership--the personality of the leader (the principal), the characteristics of group members (qualities of the staff which affect the principal's attitude toward them), and the situation in which leadership functions (the principal-staff relationship of the school). How the principal's esteem for his least preferred co-worker will influence his own behavior and the behavior of his teachers provides the second focus of this study.

The Concept of LPC

Theory and research which eventually resulted in the creation of an instrument to measure a leader's esteem for his least preferred co-worker was developed by Fiedler and his associates (16, 17, 18). Their research program, which began in the early 1950's, developed from findings regarding relationships between therapists and their patients. It was found that effective psychotherapists perceived their patients to be more like themselves than did reputedly poor therapists. This suggested that "the individual who perceives another person as similar tends to feel psychologically close, accepting, and permissive toward

him" (17, p. 153). This hypothesis, which was substantiated in later studies, resulted in the search for means of assessing a leader's attitude toward his co-workers, out of which grew the concept of LPC.

A leader's esteem for his least preferred co-worker (LPC) is obtained by asking a leader to think of all the individuals with whom he has ever worked. He then describes the person whom he considers his least preferred co-worker on a number of personality attributes. This description is made on an eight-point bi-polar adjective checklist, including such items as pleasant-unpleasant, friendly-unfriendly, rejecting-accepting. The LPC score is obtained by simply summing the item scores on the scale sheet.

In explaining the meaning of the score obtained, Fiedler states that a person with a high LPC score tends to see even a poor co-worker in a relatively favorable manner (i.e., "Even if I can't work with him, he may still be a very nice and valuable person"). A low LPC person perceives his least preferred co-worker in a high unfavorable, rejecting manner ("If I cannot work with him, he is probably just no good") (17, p. 155). Interpreting LPC scores in the light of other personality tests was found to be difficult. Earlier studies treated it as a measure of psychological distance, but this interpretation was later found to be an oversimplification. More recent studies indicate that high LPC leaders behave in a manner which promotes member satisfaction and lowers member anxiety; such leaders are compliant, more nondirective and generally more relaxed, especially under pleasant and nonthreatening conditions. Low LPC leaders, on the other hand, were found to give and ask for more suggestions, to be less inclined to tolerate or to make

irrelevant comments, to demand and get more participation from members, and to be more controlling and managing in their conduct of group affairs (17, p. 155).

One of Fiedler's chief concerns was in determining the effectiveness of leaders who were either high or low on the LPC scale. He investigated leadership in many types of groups--basketball teams, survey parties, bomber crews, and company executives. Results of his research indicated that leader effectiveness is contingent upon at least three situational components. These are (1) Affective Leader-Group Relations--the personal relationship between the leader and key members of his group, (2) Task Structure--the clarity or ambiguity of the task to be performed, and (3) Position Power--the degree of authority inherent in the leader's position. Using these variables Fiedler formulated his contingency model.

Briefly, Fiedler maintains that the effectiveness of a leader's performance is contingent upon the prevalence of the situational variables just mentioned. The model predicts that low LPC leaders, those who are directive, managerial and active, perform best under conditions which provide them with either considerable or relatively little effective power. High LPC leaders, those who tend to be permissive, considerate and non-directive, perform best in group situations intermediate in the degree of effective power which the leader has at his disposal (18, p. 279). It is acknowledged that either type of leadership style may be effective, but that the effectiveness of it is dependent upon conditions which prevail at the time.

LPC and Principals' Behavior

The use of the LPC scale in this study is not directed at replicating Fiedler's research in a school situation. This has been done recently by McNamara in a study of Alberta schools (36). McNamara found that the contingency model proved to be as valid for explaining effective leadership in elementary schools as it had for leadership in the groups Fiedler investigated. The first use of LPC scores in this study will be as an index of the degree to which principals tend to be directive or permissive in their orientation toward their staffs, and how this orientation is reflected along the dimensions of principals' behavior as defined by the Organizational Climate Description Questionnaire.

Much has been written about the effects of permissive and directive leadership on the performance of group members. No theory, however, has been developed which will help to explain how a leader's orientation toward directive or permissive behavior will be reflected in his own interaction with group members. Because of this, hypotheses need to be formulated and research carried out to clarify an understanding of the way a principal's esteem for his least preferred co-worker influences his leadership style. Findings from such an investigation will help to extend the knowledge available regarding the meaning of LPC scores so that their interpretation will be more reliable and their usefulness enhanced.

The following hypotheses regarding the relationship between LPC scores and principals' behavior have been formulated:

Hypothesis II.1. Principals' LPC scores will be inversely related to the dimension of Aloofness

Aloofness refers to behavior by the principal which is characterized as formal and impersonal. "He goes by the book and prefers to be guided by rules and policies rather than to deal with the teachers in an informal, face-to-face situation. His behavior, in brief, is universalistic rather than particularistic, nomothetic rather than idiosyncratic. To maintain this style he keeps himself - at least "emotionally" - at a distance from his staff" (27, p. 32). Since LPC scores were originally interpreted as psychological distance, it seems reasonable to assume that a principal with a low LPC score will be perceived by his teachers to display a greater degree of aloofness in his interaction with his staff than a principal with a high LPC score. Since a low LPC leader perceives his least preferred co-workers in a highly unfavorable and rejecting manner, he is more likely to be formal and impersonal in his relations with them.

Hypothesis II.2. Principals' LPC scores will be inversely related to the dimension of Production Emphasis.

According to Halpin, Production Emphasis refers to behavior by the principal which is characterized by close supervision of the staff. Being highly directive, his communication tends to go in only one direction and he is not sensitive to feedback from the staff (27, p. 32). Production Emphasis on the part of the principal would seem to be closely associated with a low LPC score. It reflects behavior which is directive, controlling and managing--all indicative of a leader who has low esteem for his least preferred co-worker. Because of this a low LPC score would suggest behavior aimed at achieving the goals of the organization through activities which emphasize productivity rather than

promote member satisfaction.

Hypothesis II.3. Principals' LPC scores will be directly related to the dimension of Thrust.

Thrust refers to behavior by the principal which is characterized not by close supervision but by the principal's attempt to motivate the teachers through the example which he personally sets. Although Thrust refers to behavior which is task-oriented and therefore similar to that of Production Emphasis, it differs from Production Emphasis in that member satisfaction as well as goal achievement is promoted. By going out of his way to help teachers and by setting a personal example for others to follow, the principal reflects a high degree of esteem for his co-workers. As a result, such behavior would seem to be more characteristic of a principal with a high LPC score than with a low one.

Hypothesis II.4. Principals' LPC scores will be directly related to the dimension of Consideration.

According to Halpin "Consideration refers to behavior by the principal which is characterized by an inclination to treat the teachers 'humanly' and to try to do a little something extra for them in human terms" (27, p. 32). Consideration for members is a quality closely associated with a high LPC score. Fiedler (1/) reports a study by Meuwese which found that high LPC leaders were described by their groups as being high on the Ohio State "Consideration" dimension. Although this dimension does not correspond exactly to the Consideration subtest of the OCDQ (1), the two seem similar enough to justify the hypothesis that principals with a high LPC score will engage in more activities which promote the well-being of their teachers.

LPC and Teacher Behavior

The second use to be made of principals' LPC scores is to relate them to the four dimensions of teacher behavior measured by the Organizational Climate Description Questionnaire. If, as Fiedler maintains, the attitude of a leader is reflected in the directiveness or permissiveness he displays toward subordinates, then the effects of such an attitude should be evidenced in the behavior of those subordinates. The applicability of this theory for educational organizations will be tested when the principal's esteem for his least preferred co-worker and the behavior of teachers are related.

Research and theory concerning the effects of different types of leadership styles on group performance offer little help in formulating hypotheses regarding the relationship between a principal's LPC score and teacher characteristics. One reason for this is that the effects of leader behavior are usually measured in terms of productivity and task achievement rather than in terms of the behavior and attitudes of organizational members. Most studies have been concerned with group effectiveness in solving problems or members' efficiency in carrying out specific functions. Only to the extent that these involve changes in behavior can theory in this area be considered appropriate for the derivation of needed hypotheses.

As well, findings regarding the effects of directive and permissive leadership are often inconsistent and even contradictory. For one study which concludes that a particular type of leader behavior is most conducive to goal achievement or group satisfaction, another study will arrive at a conflicting conclusion. As an example of this,

the findings of two studies of the effects of leader behavior can be compared. Blau and Scott (8), investigating varying styles of leadership in two welfare agencies, found differences in supervisory styles among leadership personnel. Authoritarian supervisors were considered by employees to be strict rather than easy, to supervise closely rather than to let subordinates work on their own, and generally to be more directive than permissive in their approach. Contrary to expectations, however, Blau and Scott found that authoritarian supervisors led groups which were as loyal and effective as those under less authoritarian leaders. In contrast were the findings of Katz, Maccoby and Morse in their study of an insurance company (32). Groups in which the leader engaged in close supervision, by specifying exactly what each person was supposed to do, were found to be less productive than groups whose leaders were more permissive in their interactions with workers.

Part of the reason for this discrepancy in findings is that situational variables, which play such a prominent part in determining the effects of leadership behavior, often vary from study to study. It is difficult enough to apply conclusions from research done in one type of school to another type of school, but it is even more questionable to generalize the results from non-educational institutions intact to schools.

Therefore, in relating principals' LPC scores to the dimensions of teacher behavior a non-directional hypothesis will be proposed in each case. There are two reasons for this. As has just been indicated, there seems to be no coherent theory from which hypotheses relating directive/permissive leadership style to the behavior of organizational

members can be logically derived. As well, the only piece of research relating LPC scores to an aspect of teacher attitudes found no significant relationship. This was McNamara's study of elementary schools, in which he found principals' LPC scores to correlate 0.02 with teacher satisfaction (36, p. 94). Although satisfaction is not a variable to be examined in this part of the study, it is nonetheless a dimension of teachers which is not dissimilar to the variables which will be related to the LPC scores of principals.

Hypothesis III.1. Principals' LPC scores will be related to the dimension of Disengagement.

Hypothesis III.2. Principals' LPC scores will be related to the dimension of Hindrance.

Hypothesis III.3. Principals' LPC scores will be related to the dimension of Esprit.

Hypothesis III.4. Principals' LPC scores will be related to the dimension of Intimacy.

The Effects of Group Acceptance

Research using the LPC instrument has indicated that group reaction to a leader's behavior is strongly affected by the group's acceptance of the leader. It was found that this personal relationship between a leader and the key members of his group is probably the most important single determinant of group processes which affect performance (17, p. 159). It would appear that in many cases either directive or permissive behavior on the part of the leader may be appropriate for group effectiveness provided the leader is accepted by that group. Because of this it is important to introduce the concept of group accept-

ance of the leader's behavior as an intervening variable between the principal's LPC score and the teacher behaviors to be examined.

A number of indices have been used to determine the degree to which a leader is accepted by the group. Fiedler's early studies used sociometric ratings to indicate group acceptance, while more recently a simpler instrument has been devised to measure the same dimension. This is the leader's rating of the group's atmosphere (GA) on a scale similar to that used to measure LPC. This instrument has proven to be an easy and reliable way to determine the degree of acceptance of the leader by the group. It was given to the principals in this study to measure staff acceptance of their leadership behavior.

It is difficult to derive particular hypotheses regarding the effect of GA scores as mediating variables between principals' LPC scores and teacher behaviors. Instead, one general hypothesis will be proposed.

Hypothesis IV. When schools are grouped according to whether they score high or low on the GA scale, correlations between LPC scores and teacher behaviors will be significant.

Summary

In this section the second independent variable has been examined and its relationship to the dependent variables proposed. From a brief review of approaches to the study of leadership, attention was focused on Fiedler's theory of effective leader behavior. Two of the variables of Fiedler's model, LPC and GA, have been selected for examination in this research.

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CHAPTER III

INSTRUMENTATION AND METHODOLOGY

This chapter provides descriptions of the instruments used in the study and the methods by which these instruments were administered. All the instruments described here are to be found in Appendix A.

I. THE INSTRUMENTS

Organizational Climate Description Questionnaire

This instrument was developed by Halpin and Croft (5) as a means of assessing the organizational climate of schools. While recognizing that many variables could contribute to the climate of a school, Halpin and Croft limited their investigation to the social interaction which occurs in schools, defined in terms of the behavior of principals and teachers.

In developing their instrument, Halpin and Croft began with one thousand items gathered from other instruments, the experiences of graduate students, and interviews with teachers. These items were administered in 71 elementary schools from six different regions of the United States. In total 1151 staff members were used as the base sample in the development of the questionnaire. As a result of this administration and subsequent analysis, the number of items was reduced to 64. Two criteria were applied in this procedure. The first was a verbal screening in which items were checked for clarity, redundancy, emotional overtones and social desirability. The second criterion was statistical in nature. Items were subjected to different kinds of

analysis, particularly factor analysis, to determine which items clustered together and which differentiated among schools. The result was the final form of the instrument.

The OCDQ is a Likert-type scale of sixty-four items, each item contributing to one of the eight subtests which describe teacher and principals' behavior. Completed by the staff of a school, the questionnaires are scored, item scores combined by subtests and averaged, the subtest scores for each school averaged, and the resulting school means standardized with a mean of 50 and a standard deviation of 10. This produces what Halpin and Croft term the normative standardization of scores. In order to compare subtest scores within a school as well as between schools, the subtest scores are standardized for each school. This yields the ipsative standardization, giving an eight-point profile for each school which is used to determine the organizational climate.

Although the concept of climate is not one of the variables being examined in this study, some mention of it should be made in order to complete the discussion of the OCDQ. When the school profiles based on subtest scores were first analyzed, six major clusters or prototypes emerged. In describing these climates Halpin and Croft turned to Rokeach's concept of the open and closed mind. They ranked the six climates from open to closed depending on the extent to which they satisfied social and achievement needs. Open climates were functionally flexible and satisfied both these kinds of needs, while closed climates, being rigid, tended to satisfy neither.

Reliability. In testing the reliability of subtest scores, Halpin and Croft did not employ the most commonly used measure of

reliability, that of test-retest, but concentrated on coefficients which could be derived from a single administration of the instrument. These were (1) the split-half coefficient corrected by the Spearman-Brown formula, (2) the correlation between odd- and even-numbered items, and (3) communality estimates for a three-factor rotation (5, p. 49). Reasonably acceptable subtest reliability was indicated by these tests of internal consistency and equivalence.

Validity. Halpin and Croft assumed no responsibility for carrying out any kind of validation of the OCDQ. They excused themselves from the task of comparing OCDQ scores with any external criteria of school effectiveness by claiming to be unsure of what criteria should be used against which to check these scores. They also felt that "many of the measures which have been used in education as purported indices of a school's effectiveness do not justify the blind confidence that many of us have placed in them" (5, p. 82).

It was in the Department of Educational Administration at the University of Alberta that the validation of the OCDQ was undertaken (1). This study, which was carried out in 1964-65 under the direction of Andrews, used a sample of 165 Alberta schools. Teachers and principals in these schools were used to complete the Organizational Climate Description Questionnaire as well as instruments measuring other variables with which the OCDQ was being compared. The following variables were correlated with subtest and climate scores: (1) teacher satisfaction, (2) rated school effectiveness, (3) rated principal effectiveness, (4) pupil achievement, (5) staff characteristics, (6) Form XII of the LBDQ, and (7) certain personality

variables of the principal.

As a result of his study Andrews drew the following conclusions:

- (1) Though Halpin and Croft's climate categorizations may be considered as reasonably valid descriptions of commonly occurring patterns of certain aspects of principal-staff interaction, the term organizational climate is much too broad to use in encompassing these aspects, and that the names applied to these patterns and the term organizational climate itself are actual detractions from the validity of the instrument; and
- (2) the subtests have internal consistency and are reasonable, valid measures of important aspects of the leadership of the principal in a perspective of interaction with his staff (1, p. 332).

Evidence that the subtest scores of the OCDQ yield more significant results than climate scores when compared with other variables can be found in almost every study which has used the instrument. In three studies dealing with organizational climate and pupil achievement (1, 2, 8), no significant correlations were found between these two variables. Yet achievement was found to correlate significantly with four of the subtest scores. In Plaxton's study of the personality of the principal (9), no overall relationship between the dimensions of personality and climate were discovered. However, all of the subtests except one showed significant F ratios across the personality types.

A secondary purpose of the OCDQ validity studies was to determine the applicability of the instrument beyond elementary schools. As well as elementary schools, three other types of schools were used in the sample: elementary-junior high schools, secondary schools, and combined schools. It was found that, although the OCDQ had been tested

initially in elementary schools, it was equally valid for all other kinds of schools tested.

Summary. As this discussion of the Organizational Climate Description Questionnaire has indicated, the instrument is far from being flawless. Most of its imperfections seem to stem from the concept of climate, a concept which seems meaningful enough when discussed theoretically, but which is difficult to define operationally. It is in their classification of teacher and principal behaviors that Halpin and Croft have made the most significant contribution to the study of educational organizations. These have proven to be reliable in describing this aspect of the social component of schools.

By limiting this study to the subtests of the OCDQ rather than to the climate scores, it was hoped to capitalize on the most valuable features of the instrument and avoid most of its weaknesses.

School Bureaucratic Index

This is the title given to the instrument used to measure the degree of bureaucratization of the schools sampled. It is the same instrument used by Hartley (6) in his study of five American high schools. Although called the D-B Form in Hartley's thesis, this title is relatively meaningless and has been changed for purposes of discussion. The instrument remained unnamed in the questionnaire.

The School Bureaucratic Index is a thirty-item questionnaire based on twenty bureaucratic characteristics selected from a review of the literature. Some of the characteristics are more applicable to a school setting than others and are thus used to a greater extent. Table I identifies each of the items of the instrument and the bureaucratic

TABLE I

IDENTIFICATION OF ITEMS ON THE S.B.I. WITH THE
TWENTY CHARACTERISTICS OF BUREAUCRACY

Bureaucratic Characteristics	Statement Number
Authority	2, 8, 21, 23, 27
Categorization of Problems	8, 18, 19, 24
Centralization	2, 28
Common Goals	6, 9, 25, 28
Controls and Sanctions	2, 6, 18, 20, 21, 22, 24
Files	24, 25
Formality	1, 5, 11, 13, 15, 20, 28
Hierarchy	3, 10, 21, 23, 27
Impersonality	3, 7, 11, 16, 21
Lines of Communication	5, 15, 24, 25, 27
Objectivity	5, 14, 20, 29, 30
Oligarchy	2, 27
Professional Expertise	4, 29
Rationality	6, 9, 25, 30
Routines	8, 18, 22, 24, 25, 28
Rules and Regulations	1, 2, 6, 8, 18, 20, 22, 24
Size	7, 16
Specialization	4, 12
Technical Efficiency	6, 14, 26, 30
Technical Skills and Qualifications	10, 14, 29

dimensions on which they are based. Since some of the items are appropriate for more than one bureaucratic characteristic, they appear more than once in the table. The four elements which appear most frequently are controls and sanctions, formality, rules and regulations, and routines.

The instrument is a Likert scale completed by the staff members of a school. Since there are four categories of response (strongly agree to strongly disagree), possible scores range from 1 to 4. A score of 1 indicates a high bureaucratic score while a score of 4 a low bureaucratic score. Items 3, 7, 8, 13, 20, 23 and 28, which are written in terms of non-bureaucratic structures, are scored in reverse order.

Development of the Instrument. The following is Hartley's description of the pilot study and other procedures used to establish validity and reliability. The author conducted a pilot study in order to ascertain whether or not the D-B Form could effectively determine the degree of bureaucratization within secondary schools. The study was conducted in a two-county area in Eastern Pennsylvania because the secondary schools in this area presented a wide range of degree of bureaucratization based on the reports of knowledgeable individuals.

The initial step involved the selection of three judges who were familiar with the schools, who understood the concept of bureaucracy underlying Hartley's instrument, and who were willing to rank the schools according to degree of bureaucratization. The author discussed the theoretical definition of bureaucracy with each of the judges in order to insure consistency. Each of the judges was asked to rank 19 schools on a seven-interval scale. There was consensus on the

judges' estimates of six schools, three of which received a score of 1 (very high bureaucratization) and three of which received a score of 7 (very low bureaucratization). These six schools were chosen for use in the pilot study.

The second step involved the administration of the D-B Form to each of the three judges. They were asked to complete the form for one of the schools which they had previously rated as highly bureaucratized and for one of the lowly bureaucratized schools. The results of this step indicated that the instrument did discriminate between types of schools, according to the judges' appraisal. The third step of the pilot study consisted of the administration of the D-B Form to ten teachers in each of the six schools. This was done in order to determine whether a survey of the teachers would verify the opinion of the judges and help to validate the instrument. The results indicated that the D-B Form did differentiate between highly and lowly bureaucratized schools.

Participants in the pilot study were encouraged to comment on the D-B Form in a constructively critical manner. As a result of discussions, written comments and analysis of the data, certain minor revisions of the instrument were made. Inspection of the instrument used in the pilot study revealed that a high degree of face validity was present. The scores for both the teachers and the judges supported the judges' rankings of the schools and indicated that the instrument could discriminate effectively between types of formal organizations.

Validity and Reliability. Validity was determined by measuring each of the thirty items against the total test by means of analysis of

Item Relationship (I. R.). I. R. is a phi-equivalent technique and may be equated with the phi coefficient when the data are dichotomized. All of the items except three had an I. R. value above the arbitrarily determined minimum and were considered to be valid. The author was not certain whether these three items received a low I. R. value because of ambiguity of fact or ambiguity of judgment, but the possibility exists that any or all of those items might have received an acceptable coefficient from a different sample.

In order to determine a reliability coefficient for the instrument, a product-moment correlation was computed. The author administered the instrument to the teachers of one school twice, the second time after a three-month interval and the correlation coefficient between test and retest scores was .95 (6, p. 60).

The procedures used by Hartley to validate his instrument indicate that the D-B Form seems to measure what it purports to measure--the degree of bureaucratization in secondary schools. Measures of reliability and internal consistency attest to the fact that the measures taken are consistent over time.

Least Preferred Co-Worker Rating Scale

This is the instrument used to measure the attitude of the principal toward his least preferred co-worker (LPC). It was developed by Fiedler during the course of his research in leader effectiveness. Fiedler's initial studies used as a predictor of group performance an interpersonal perception or attitude score which is derived from a leader's description of his most and least preferred co-workers. The respondent is asked to think of those with whom he has worked and then

to describe the person with whom he worked best (his most preferred co-worker) and then the person with whom he could work least well (his least preferred co-worker).

The descriptions are made on 20 eight-point bi-polar adjective checklists, similar to Osgood's Semantic Differential, using items descriptive of personality attributes. For example,

Pleasant --8--:--7--:--6--:--5--:--4--:--3--:--2--:--1-- Unpleasant
 Rejecting --1--:--2--:--3--:--4--:--5--:--6--:--7--:--8-- Accepting

Respondents are asked to circle the most appropriate score (from 1 to 8) for each of the items.

Two main scores have been derived from these descriptions. The first, used primarily in earlier studies, was based on the profile similarity measure D between the descriptions of the most and the least preferred co-workers. This was called the ASo, or Assumed Similarity between Opposites, and indicates the degree to which the individual perceives the two opposites on his co-worker continuum as similar or different.

The second instrument was the LPC, which is based on a leader's description of his least preferred co-worker only. Scores on this instrument, which can range from 0 to 160, indicate the degree to which the respondent evaluates his least preferred co-worker in a relatively favorable or unfavorable manner. Fiedler's research has indicated that the two measures, ASo and LPC, are highly correlated (.80 to .95) (4, p. 280). Because of this correlation and since the LPC is simpler to administer, it has largely replaced the ASo as a research tool. It was the instrument used in this study.

During this research program LPC scores were found to have a high internal consistency, with a split-half reliability of over .90. Fiedler reports that "the scores are reasonably stable over time, although changes do take place depending on intervening training and experience. In this respect the scores resemble other attitude measures" (3, p. 155).

Group Atmosphere Scale

This is the instrument used to measure the degree to which the staff of a school accepts the behavior of the principal as perceived by the principal. Inclusion of this instrument in the study is based on the belief that "the personal relationship between the leader and key members of his group is probably the most important, single determinant of group processes which affect team performance" (3, p. 159). Studies by Fiedler and others have revealed group atmosphere to be a strong mediating variable between the behavior of the leader and the effectiveness of the group. It was used in this study as a means of differentiating the schools in the sample into upper and lower thirds.

Fiedler states that a number of indices have been used to tap this dimension (3, p. 159). The Group Atmosphere Scale is the most recent of these. The leader's rating of the group's atmosphere (GA) is done on a scale similar to the LPC scale and scored in the same manner. With a scale of 10 items scores can range from 0 to 80.

Biographic Information

As well as completing the instruments just mentioned, teachers and principals were asked to provide information about themselves and their school. Teachers were asked to indicate their sex, age,

experience, training, and years in present school, while principals reported their experience as a teacher and as a principal, number of years in their present school, and degrees held. The number of teachers and pupils in each school was also reported.

II. METHODOLOGY

The following section describes the sample of schools used in the study, some characteristics of the teachers and principals in these schools, and procedures for the collection and analysis of the data. All correspondence mentioned in this section is found in Appendix B.

The Sample

Thirty-nine high schools in the province of Saskatchewan comprised the sample of this study. These were publicly supported schools located in the largest urban centers of the province. Each school contained grades nine to twelve and ranged in size from 270 to 1350 pupils with 14 to 72 teachers.

No attempt was made to ensure that the schools involved constituted a random sample of high schools in the province. Rather, it was hoped to utilize all high schools above a minimum number of teachers. This proved to be almost the case as only three of the forty-two possible schools did not take part. The high schools studied represented a great variety of types, being located in cities and towns, offering vocational as well as academic programs, and being populated by students from various socio-economic levels.

Table II indicates a number of variables which characterized the schools, teachers, and principals of the sample and the means for each.

TABLE II
SOME CHARACTERISTICS OF THE SCHOOLS,
TEACHERS AND PRINCIPALS STUDIED

(N = 39)

Characteristic	Teachers	Principals	Schools
Years of training	4.30	4.97	
Years experience			
as a teacher	8.70	21.82	
as a principal		8.84	
Years in present school	3.80	13.30	
Percentage male	72.80	100.00	
Age	37.20		
Number of teachers			30.87
Number of pupils			625.71
Pupil-Teacher Ratio			20.39

Procedures

Before contacting the schools to be studied, permission was received from the Department of Education to carry out the study in Saskatchewan. Letters were then sent to superintendents, locally and provincially appointed, who had jurisdiction over the high schools concerned. These superintendents received copies of the questionnaires and an outline of the nature of the study. Only one superintendent refused to have the research carried out in his schools. Other superintendents approved the study, referred the matter to the principals involved, or did not reply.

Contact with the principals was made by mail or in person. During the winter of 1967, the investigator met with 26 of the 39 principals, individually or in groups. The remaining principals were contacted by mail. Each of the schools received the following material: (1) an outline of the study and procedures for collecting the data, (2) the principal's questionnaire containing the LPC, GA and biographic information, and (3) the Organizational Climate Description Questionnaire and the School Bureaucratic Index.

The last two instruments were to be completed by the teachers with each teacher completing only one of the questionnaires. There were three reasons for this procedure. It would rule out the possibility of a teacher's response to one questionnaire being influenced by his response to the other questionnaire, thus avoiding a "perceptual box." As well, because of the large size of the school staffs, a sufficient number of questionnaires would be completed by half the staff to carry out the analysis of the data. Lastly, it was assumed

that teachers would be more willing to respond if completion of only one questionnaire were involved.

In order to ensure that the questionnaires were distributed to the teachers in a random manner, each questionnaire was placed in an unmarked envelope. Since the contents of the envelopes were unknown, it was assumed that distribution would be random. To guarantee anonymity, no identifying marks appeared on any of the questionnaires or on the envelopes in which they were returned. Because it was necessary to know only that all questionnaires came from the same school, they were returned together to the investigator.

When the questionnaires were received they were removed from the envelopes and checked for completeness. All teacher questionnaires used in the analysis were given school and teacher code numbers. The responses from all questionnaires were punched onto IBM cards with appropriate computer programs being used in the analysis of the data.

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CHAPTER IV

ANALYSIS OF THE DATA

Before dealing with the hypotheses discussed in chapter two, some of the preliminary analyses of the data can be reported at this stage. This chapter will describe the findings growing out of different types of analysis which have been applied to the data from the main instruments of the study: the Organizational Climate Description Questionnaire, the School Bureaucratic Index, the Least Preferred Co-Worker Rating Scale, and the Group Atmosphere Scale.

I. ORGANIZATIONAL CLIMATE DESCRIPTION QUESTIONNAIRE

This section will deal with two types of analysis performed on the data of this instrument: correlation of subtest scores and factor analysis with a varimax rotation.

Correlation of Subtest Scores

The relationships which exist among the subtest scores of the OCDQ are of interest in determining the extent to which certain behaviors of teachers and principals occur together and vary together. Examination of Table III indicates that some of the subtests of the instrument correlate highly with one another. When these subtests are presented graphically, the following pattern emerges. Solid lines indicate significant positive correlations, while the dotted line indicates a significant negative correlation.

TABLE III

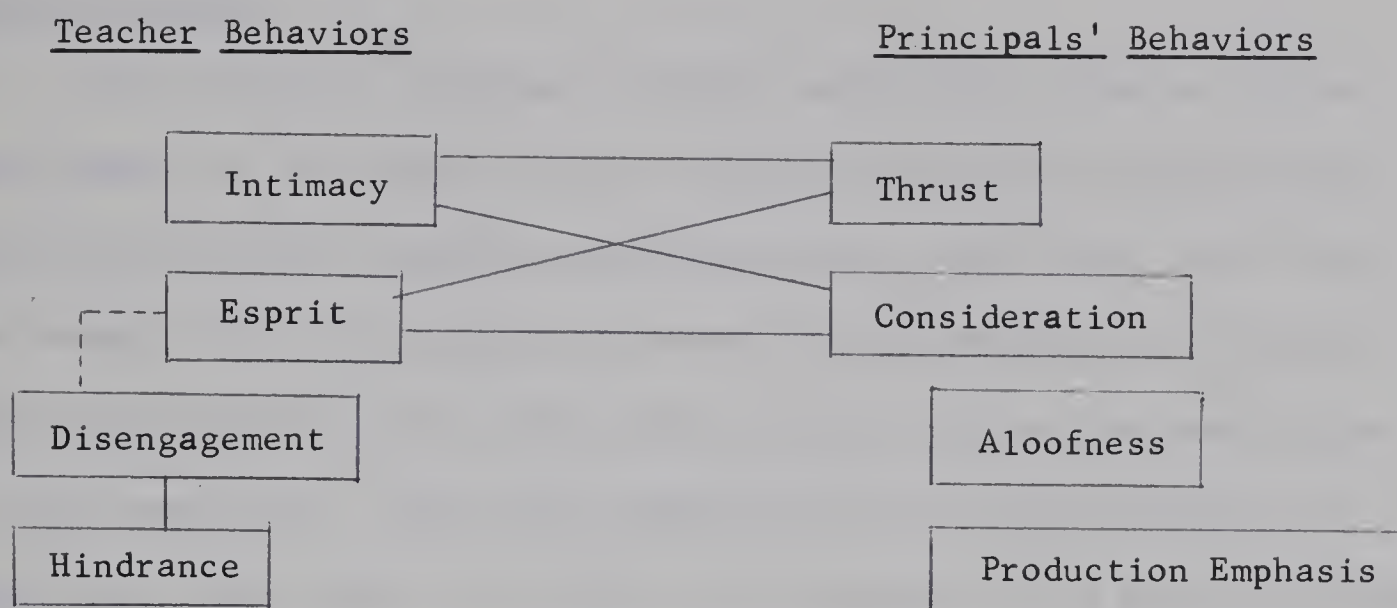
INTERCORRELATIONS BETWEEN SUBTESTS OF THE
ORGANIZATIONAL CLIMATE DESCRIPTION
QUESTIONNAIRE

(N = 39)

Subtests	1 ^a	2	3	4	5	6	7	8
1	1.000	.513 ^b	-.516	-.096	.255	.109	-.192	-.056
2		1.000	-.309	-.180	.056	.078	-.270	-.172
3			1.000	.589	-.170	.097	.606	.453
4				1.000	.054	.274	.565	.506
5					1.000	.312	-.056	-.200
6						1.000	.060	.001
7							1.000	.776
8								1.000

- ^a Subtests: Teacher Behaviors
1. Disengagement
 2. Hindrance
 3. Esprit
 4. Intimacy
- Principal Behaviors
5. Aloofness
 6. Production Emphasis
 7. Thrust
 8. Consideration

^b Using Pearson r's for 234 respondents.



The four variables of Esprit, Intimacy, Thrust and Consideration are all strongly related. This would suggest that in schools where principals set an example by working hard themselves and take a personal interest in the well-being of their staff, teachers experience high morale and display friendly relations toward one another. This cluster of characteristics, however, is negatively related to the teacher behaviors of Disengagement and Hindrance, which are themselves closely allied. This seems to indicate that the tendency for teachers to be out of touch with their educational function occurs at the same time that they feel burdened by administrative responsibilities.

It is also of interest to note that the principals' behaviors of Aloofness and Production Emphasis are not correlated significantly with any of the other dimensions. Whether this indicates that these behaviors are not meaningful in a high school situation or whether these dimensions are not measuring what they purport to be measuring cannot be determined at this stage. The findings of the factor analysis, to be discussed in the next section, shed more light on this phenomenon.

Factor Analysis

One potential weakness of Halpin and Croft's program in the development of the Organizational Climate Description Questionnaire was that no factor analysis was carried out on the final form of the instrument (5). As a result it cannot be assumed with any certainty that the items for each subtest would always load to the same degree on the same factor. With each administration of the instrument to a different sample there are likely to be changes in the factor loadings, and since the sample used here was quite different from that used by Halpin and Croft, consisting of high schools rather than elementary schools, it is possible that some items may have shifted considerably. If this were found to be the case, then it would have to be decided whether to continue to use the original subtests of the OCDQ in subsequent analyses or to make use of the factors which emerged from the varimax rotation.

The purpose of subjecting the data to a factor analysis was to indicate the relevance of the OCDQ subtests for the present sample by examining the extent to which the items for each subtest loaded on the same factor. The type of analysis used was a varimax rotation with eight factors. This kind of rotation maximizes the variance of the loadings in a column, thus precluding a general factor. The results of the analysis are contained in Appendix C, Table I.

Examination of the items and their loadings, and interpretation on the basis of item content indicates the emergence of the following factors:

Factor 1: Thrust and Consideration

This factor accounted for .24 of the communal variance and .099 of the total variance. It was the only factor on which items from two different subtests of the OCDQ loaded heavily.

Factor 2: Disengagement

Although not all of the items measuring this dimension loaded heavily on Factor 2, it is obvious that Disengagement is what the factor is measuring.

Factor 3: Resource Availability

This is the only factor which bears no relationship to the original OCDQ subtests. It includes items which pertain to the availability of school supplies, instructions for teaching aids and time for completing administrative reports.

Factor 4: Hindrance

Factor 5: Esprit

Factor 6: Production Emphasis

Factor 7: Intimacy

Although relying on fewer items than are used for the original subtests, Factors 4 to 7 correspond closely to the dimensions mentioned.

Factor 8: Miscellaneous

Despite the fact that some items did load heavily on this factor, nothing meaningful resulted from an examination of their content.

Interpretation of the factor analysis indicates that almost all the original subtests of the Organizational Climate Description Questionnaire emerged as definite factors. Exceptions are Thrust and Consideration, which appeared as one factor, and Aloofness, which did

not show up at all. Setting up the data as in Table II of Appendix C indicates the extent to which the items comprising each of the subtests load on one or more of the factors. Examination of this table reveals that the items of certain dimensions load heavily on one factor only, whereas the items of other dimensions can be found on more than one factor.

Results of this factor analysis indicate that (1) not all subtests came through as definite factors, (2) the items of some factors have shifted from their original subtest and could be considered as descriptive of one or more of the other subtests, and (3) some items did not load heavily (above .300) on any factor and could probably be deleted from the questionnaire.

The following use is to be made of the OCDQ factors resulting from the varimax rotation. These factors are to be used, as well as the original subtests, in testing the hypotheses of the study. This is to determine whether relationships with the independent variables are any more significant than was found to be the case using the original subtest scores.

II. SCHOOL BUREAUCRATIC INDEX

Since this study constituted only the second time the School Bureaucratic Index had been used as a research tool, it was important to carry out some analyses of it to determine its worth as an instrument and its usefulness for the kind of situation dealt with in this research. At least two types of information about the questionnaire were considered to be of value. The first of these concerned the findings of the instrument for the sample tested. It would be of interest to know

whether the schools of the sample differed in their degree of bureaucratization and whether the extent of bureaucratization was related to the size of the schools.

The second type of information had to do with the instrument itself and would be of value in determining what modifications might improve the quality of it. Although the School Bureaucratic Index was designed to represent a number of bureaucratic dimensions, it yields only a total bureaucratic score. Subjecting the data to a factor analysis would indicate the extent to which the instrument actually consists of subtests which could be meaningfully differentiated. If such subtests were found to exist, they could be used as well as the total score in subsequent analyses.

Analysis of Variance

The purpose of carrying out an analysis of variance on the data of the School Bureaucratic Index was to determine whether the schools in the sample differed significantly in their degree of bureaucratization. Although mean bureaucratic scores were found to range from 64.00 to 80.50, the differences between these scores might not be found to be significant. The design used to test the differences between mean scores was a one-way analysis of variance with independent samples (8, p. 100). This model was appropriate since it was assumed that schools were exposed to different treatments in terms of their degree of bureaucratization. These treatments were expected to affect the responses of staff members on the criterion measure--the total bureaucratic score.

Before proceeding with the analysis of variance, homogeneity of variance among the scores was tested using Hartley's F_{\max} test (8, p. 93).

Results of this test indicated that the variances were not homogeneous. Justification for overlooking the lack of homogeneity of variance can be found in this statement by Winer:

In cases where the experimenter has no knowledge about the effect of the treatments upon the variance, tests for homogeneity of variance may be appropriate as preliminary tests on the model underlying the analysis. There is no need, however, for a high degree of sensitivity in such tests, because F tests are robust with respect to departures from homogeneity of variance (8, p. 93).

When the usual procedure was followed, the analysis of variance of Table IV resulted.

TABLE IV
ANALYSIS OF VARIANCE AMONG SCHOOLS
ON TOTAL BUREAUCRATIC SCORES

Source	Sum of Squares	df	Mean Square	F
Treatments	4153.89	38	109.31	2.82**
Error	7545.51	195	38.69	
Total	11699.40	233		

** Significant at the .01 level ($F_{.01} = 1.69$)

Use of this model indicates that there is a statistically significant difference between the means of the bureaucratic scores of the schools sampled.

Bureaucratization and School Size

In almost all studies dealing with bureaucracy, the relationship between the size of an institution and its degree of bureaucratization has been explored. At least two statistical procedures could be used to determine the relationship between these two variables. The first of these is a correlation coefficient. Pearson r between the mean bureaucratic score for thirty-nine schools and number of students was .406. With number of teachers the correlation was .362, both of these coefficients being significant at the .05 level for a two-tailed test.

The other procedure is a chi square test of independence using a 2 x 2 contingency table (1, p. 169). By dichotomizing the variables of bureaucratization and size along their means, each school could be placed on the following table. School size ranged from 270 to 1350 pupils with a mean of 625.71. Total bureaucratic scores ranged from 64.00 to 80.50 with a mean of 72.93.

		Degree of Bureaucratization		
		Low	High	
Size	Large	8	8	16
	Small	15	8	23

The χ^2 which resulted was .90, which has a probability of .50 > p > .30.

These two pieces of evidence indicate that although bureaucratization and size are significantly correlated, the relationship as interpreted by the chi square test is not a strong one. This finding

is similar to those of Hall and MacKay when they related bureaucratization to organizational size. Hall's research (4) indicated a tendency for larger organizations to be more bureaucratic, although the relationships he observed were not statistically significant. MacKay, after testing differences between larger and smaller schools on their degree of bureaucratization, reported that the "analysis indicates a general relationship between size and total bureaucratic score. In each case, the larger schools were more bureaucratic than the small schools" (6, p. 88).

Factor Analysis

Since the School Bureaucratic Index yields only a total bureaucratic score for each school, it differs from other bureaucratic instruments, such as those used by Hall and MacKay (4, 6) which contain a number of subscales. To determine whether the items of the S. B. I. could be broken down into meaningful dimensions, two factor analyses were performed on the data.

The first of these was a varimax rotation with ten factors (see Table I, Appendix D). Examination of the items and their loadings indicated the following factors: (1) Rules and regulations, (2) Impersonality, (3) Efficient procedures, (4) Professional ethics, (5) Formality, (6) Automatic functioning, (7) Lines of communication, (8) Oligarchy, (9) Formality through rules, and (10) Miscellaneous. Since the number of items loading heavily on some of the factors was quite small, it was decided to reduce the number of factors in the second rotation.

This analysis was a varimax rotation with only five factors

(Table II, Appendix D). These factors appeared to represent the following dimensions:

Factor 1: Control of behavior through regulations and requirements

Factor 2: Conformity to formal procedures and organizational demands

Factor 3: Efficiency and expertise

Factor 4: Non-bureaucratic characteristics

Factor 5: Defined procedures

Factor 4 contained high loadings on almost all the items of the questionnaire which were scored negatively. The content of these items did not indicate any one bureaucratic dimension. Rather, what they appeared to have in common is that they described non-bureaucratic characteristics of a school. It can be suggested by this that teachers completing the questionnaire responded to these items in a similar manner. Examination of the types of responses indicated that these teachers tended to perceive their schools as being other than bureaucratic in character.

The item loadings on Factor 5 seemed to reflect a prevalence of procedures defined by the principal which covered most of the situations confronted by teachers. Also common among these items was the reference to principal-teacher interaction.

In order to indicate the relationship between these five bureaucratic factors and the total bureaucratic score, the correlations reported in Table V were found.

TABLE V
CORRELATIONS BETWEEN FIVE BUREAUCRATIC FACTORS
AND TOTAL BUREAUCRATIC SCORE
(N = 39)

Factors	1	2	3	4	5
Correlation with total bureau- cratic score	.813 ^a	.774	.294	.742	.524

^aPearson product-moment correlation coefficients.

To determine the relative contribution of each of the bureaucratic factors on the total bureaucratic score, a multiple regression analysis was used (Table VI). This analysis indicated the percentage of the variance accounted for by each of the factors. Factor 1 accounted for almost two-thirds of the variance of the criterion variable, indicating how much the degree of bureaucratization is dependent upon the control of behavior through regulations and other requirements. Factor 5, which seemed to reflect more than one bureaucratic characteristic, did not contribute significantly to the total score.

In calculating the cumulated per cent of the variance accounted for, it has been pointed out by Guilford (3) that for samples of less than 100 the Multiple R has an inflated value due to the small size of the sample. This can be corrected with a formula for shrinking the R

TABLE VI
 MULTIPLE REGRESSION OF BUREAUCRATIC FACTORS
 ON TOTAL BUREAUCRATIC SCORE
 (N = 39)

Order of entry in regression analysis	Factors	Percent of variance accounted for	Cumulated percent of variance accounted for	Corrected cumulated percent
1	1	66.16	66.16	66.16 ^a
2	2	13.06	79.21	76.62
3	3	11.36	90.57	83.55
4	4	5.93	96.50	89.10
5	5	.01	96.51	85.93

^aCorrection for inflation of R^2 due to smallness of sample size as recommended by Guilford (3).

(3, p. 401). When the cumulated percent of the variance is corrected in this way, factors 1 to 4 still account for almost 90 percent of the variance.

The factors resulting from the five-factor varimax rotation will be used, as well as the total bureaucratic score, in testing the hypotheses. Their inclusion in subsequent analyses should enhance the understanding gained of the relationship between bureaucratization and the behavior of teachers and principals.

Improving the Instrument

In order to determine which items of the School Bureaucratic

Index represented bureaucratic characteristics consistent with the total bureaucratic score, each of the items was correlated with the total score (Table VII).

TABLE VII
CORRELATIONS OF THE S. B. I. ITEMS WITH THE
TOTAL BUREAUCRATIC SCORE

Item Number	Pearson r	Item Number	Pearson r
1.	.280	16.	.497
2.	.384	17.	.444
3.	.452	18.	.411
4.	.034	19.	.261
5.	.349	20.	.215
6.	.466	21.	.444
7.	.430	22.	.444
8.	.302	23.	.296
9.	.205	24.	.387
10.	.163	25.	.260
11.	.287	26.	.380
12.	.272	27.	.222
13.	.285	28.	.331
14.	.068	29.	.488
15.	.451	30.	.388

The information of Table VII could be used as a screening device for eliminating or rewording some of the items of the School Bureaucratic Index. The following items yield coefficients of less than .300 with the total bureaucratic score: 1, 4, 9, 10, 11, 12, 13, 14, 19, 20, 23, 25, 27. The other type of analysis which could be used to screen items would be the loadings on the factor analyses reported earlier. The following items did not load .400 on any of the factors

of the two rotations: 2, 4, 5, 9, 11, 13. Summarizing the two tests, the following items appear twice: 4, 9, 11, 13. Because these items do not seem to represent either the total bureaucratic score or any of the factors which make up the total score, they need to be examined with respect to their relevance as bureaucratic dimensions. Although these items were included in the calculation of the total bureaucratic score, their low factor loadings limited their influence on the factor scores.

III. LPC AND GA

Scores on the Least Preferred Co-worker Rating Scale ranged from 60 to 123 with a mean of 93.48 and a standard deviation of 16.13. Group Atmosphere Scale scores ranged from 42 to 73 with a mean of 64.02 and a standard deviation of 6.74. It can be noted that the standard deviation for the LPC scale is proportionally larger than for the GA scale. This is consistent with the findings of previous studies and indicates that principals tend to rate their least preferred co-worker in a more extreme manner than they do their whole school staffs.

In order to test Hypothesis IV of the study, it was necessary to categorize the schools on the basis of their GA scores. Comparisons were to be made on schools whose GA scores were in the upper and lower thirds. Since the total sample size was 39, ideally there should have been 13 schools in each of these categories. However, it was impossible to divide the sample this precisely since many schools had similar GA scores. As a result it was necessary to include 14 schools in the high GA category (66 to 73) and 15 schools in the low GA category

(42 to 63). This left ten schools in the intermediate range.

IV. SUMMARY

This chapter has described a number of analyses carried out on the main instruments of the study. The purpose of this was to acquire more information about these instruments through examination of the results of their administration.

The following summary can be made of the findings reported here.

1. Intercorrelations between the subtest scores of the OCDQ revealed a pattern of behavior consistent with the findings of other studies.
2. Factor analysis of the OCDQ indicated that the subtests of the questionnaire as presently constituted were not altogether appropriate in describing the behaviors of teachers and principals in the sample. As a result the factor scores as well as the original subtest scores were employed in testing the hypotheses of the study.
3. Although the variances of the bureaucratic scores of the schools were not found to be homogeneous, these schools did differ significantly in their degree of bureaucratization.
4. On the basis of factor analysis, the School Bureaucratic Index could be broken down into factors which describe meaningful aspects of bureaucratic structure. These factors were employed in subsequent analyses of the data.

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CHAPTER V

TESTING THE HYPOTHESES - BUREAUCRATIZATION

In this chapter the testing of the first hypothesis is described and the findings discussed.

I. BUREAUCRATIZATION AND TEACHER BEHAVIOR

The first hypothesis of this thesis dealt with the relationship between teacher behavior and school bureaucratization. It posited relationships between the total bureaucratic score and the teacher behaviors of Disengagement, Hindrance, Esprit, and Intimacy.

The results of the correlations between these variables is presented in Table VIII.

TABLE VIII
CORRELATIONS BETWEEN TOTAL BUREAUCRATIC SCORE
AND OCDQ SUBTESTS OF TEACHER BEHAVIOR
(N = 39)

Teacher Behaviors	Disengagement	Hindrance	Esprit	Intimacy
Correlation with total bureaucratic score	-.116 ^a	.071	-.165	-.031

^aPearson product-moment correlation coefficients.

As Table VIII indicates, the correlations between the total bureaucratic score and teacher behaviors are extremely low and do not approach significance. It would have to be concluded that there is no discernible relationship between the behavior of teachers and the total degree of bureaucratization they perceive to exist in their schools. Whatever other variables might be related to the degree of bureaucratization in schools, these dimensions of teacher behavior are not among them.

The lack of significance in the relationship of bureaucratization and teacher behavior could be interpreted in a number of ways. It could mean that although schools were found to differ significantly in their degree of bureaucratization, bureaucratic characteristics were not pronounced enough in any of the schools to influence significantly the types of teacher behavior being examined. Even though objective measures might indicate a considerable degree of bureaucratization, in the schools tested teachers themselves did not perceive their schools as being highly bureaucratic in structure.

If teachers were in fact aware of the bureaucratic structure which existed in their schools, such an awareness was not found to be significantly related to their behavior along the dimensions studied. Teachers in schools with a high degree of bureaucratization did not behave differently than did teachers in schools with a low degree of bureaucratization. Any differences in behavior would have to be accounted for by factors other than the degree of bureaucratization.

Bureaucratic Factors and Teacher Behavior

Although the total bureaucratic score was not significantly related to the teacher behaviors measured by the OCDQ, this does not rule out the possibility of significant relationships between these behaviors and the bureaucratic factors resulting from the varimax rotation of the School Bureaucratic Index (see pp. 68-72). Such relationships are presented in Table IX.

Of all the correlations cited, only two were found to be significant. The first is a negative correlation between Esprit and Conformity to Procedures. This seems to indicate that in schools where relationships among teachers tend to be formal and where conformity to acceptable standards of behavior is emphasized, a feeling of esprit among teachers is reduced. The degree of formality and impersonality governing interpersonal relationships in such schools seems to hinder the development of the kinds of behavior which contribute to Esprit.

The significant positive correlation between Intimacy and the bureaucratic factor of Efficiency and Expertise indicates an association between close social relationships on the part of the staff and perceptions that the school is being efficiently operated. Why such a relationship should exist is not readily apparent.

Multiple Correlation

A second method which could be used to examine the relationship between bureaucratization and teacher behavior is that of multiple correlation. This procedure establishes the best weightings of each of the predictor variables for the criterion variable. In this case

TABLE IX

CORRELATIONS BETWEEN BUREAUCRATIC
FACTORS AND TEACHER BEHAVIORS

(N = 39)

Teacher Behaviors	Disengagement	Hindrance	Esprit	Intimacy
Bureaucratic Factors				
Total Bur. Score	-.116 ^a	.071	-.165	-.031
Control of Behavior	-.061	.245	-.164	-.239
Conformity to Procedures	.176	.288	-.403*	-.106
Efficiency and Expertise	-.206	-.228	.266	.344*
Non-bureaucratic Characteristics	-.194	-.003	-.055	.029
Defined Procedures	-.033	.156	-.020	-.011

^aPearson product-moment correlation coefficients

*Significant at the .05 level for a two-tailed test

the total bureaucratic score and the bureaucratic factors are the predictors, with each of the OCDQ subtests of teacher behavior being criteria. Table X indicates the findings of this procedure.

In Table X the bureaucratic factors are listed in order of their importance in predicting each of the criterion variables. It will be noted that except in the case of Disengagement the Total Bureaucratic Score has the largest Beta weight. In view of the fact that the other predictors are factors of the Total Bureaucratic score, this seems reasonable.

Table X does not indicate the percentage of the variance of each OCDQ subtest of teacher behavior accounted for by the best combination of all the predictors. The R^2 for each of the criteria are: Disengagement (20.88), Hindrance (26.78), Esprit (25.91) and Intimacy (22.78). This means that the degree of bureaucratization in the schools studied accounts for only one-fifth to one-quarter of the total variance of teacher behavior. It is obvious that many other factors besides bureaucratic structure are predictive of the behaviors of teachers.

In Chapter VII bureaucratic factors are included with a number of other variables as possible predictors of the behavior of teachers and principals. Inclusion of these other variables places bureaucratic factors in perspective with regard to other factors which might influence behavior.

TABLE X

MULTIPLE CORRELATION PREDICTION
OF OCDQ TEACHER SUBTESTS
BY BUREAUCRATIC FACTORS

(N = 39)

Criterion Variables	Predictor Variables	Beta Weights
Disengagement	Conformity to Procedures	.733
	Total Bureaucratic Score	-.694
	Non-bureaucratic Characteristics	-.108
	Defined Procedures	.100
	Efficiency and Expertise	.083
	Control of Behavior	.019
Hindrance	Total Bureaucratic Score	-1.622
	Conformity to Procedures	.892
	Control of Behavior	.782
	Efficiency and Expertise	.399
	Non-bureaucratic Characteristics	.214
	Defined Procedures	.170
Esprit	Total Bureaucratic Score	-.642
	Efficiency and Expertise	.438
	Control of Behavior	.401
	Non-bureaucratic Characteristics	.318
	Conformity to Procedures	-.296
	Defined Procedures	.029
Intimacy	Total Bureaucratic Score	-.835
	Efficiency and Expertise	.627
	Non-bureaucratic Characteristics	.444
	Conformity to Procedures	.443
	Control of Behavior	-.082
	Defined Procedures	.029

II. BUREAUCRATIZATION AND PRINCIPALS' BEHAVIOR

To help clarify the meaning of the relationships discovered between bureaucratization and teacher behavior, it would appear to be of value to examine the relationship between the behavior of principals and the bureaucratic structure of their schools. This can be justified on the grounds that the responses made by teachers to the degree of perceived bureaucratization may be conditioned by the behavior of the principal as he relates the structure of the organization to the on-going processes of the school.

In Table XI the relationship between the total bureaucratic score and the behaviors of principals is reported

TABLE XI
CORRELATIONS BETWEEN TOTAL BUREAUCRATIC SCORE
AND OCDQ SUBTESTS OF PRINCIPALS' BEHAVIOR
(N = 39)

Principals' Behaviors	Aloofness	Production Emphasis	Thrust	Consideration
Correlation with total bureaucratic score	.135 ^a	.180	-.384*	-.429*

^aPearson product-moment correlation coefficients.

*Significant at the .05 level for a two-tailed test.

The fact that the total bureaucratic score is significantly related to two dimensions of principals' behavior is encouraging in view of the lack of significance with teacher behavior. It tends to substantiate the theory underlying this study--that structural variables do have some relationship with organizational behavior.

The negative correlations found between bureaucratization and the dimensions of Thrust and Consideration seem to indicate that in schools where the control of behavior through regulations and conformity to organizational procedures is emphasized, principals make little effort to help teachers with either their professional or their personal problems. The apparent incompatibility of organizational concerns and personal considerations is illustrated in this relationship. When organizational demands for control and conformity are met through the institution of bureaucratic requirements, needs and aspirations of organizational members tend to be ignored. Thus the impasse between the nomothetic and the idiographic dimensions of organizations remains.

The reason the relationship between bureaucratization and principal behaviors was not included as a hypothesis in this study was the belief that principals were to a large extent responsible for the degree of bureaucratization in their schools. Because of this, any relationship between principals' behavior and bureaucratic structure would tend to be circular. The negative correlation between bureaucratization and the dimensions of Thrust and Consideration could be interpreted to mean that if principals are in fact responsible for the imposition of bureaucratic regulations, they do so because they are more concerned with organizational efficiency than teacher satisfaction.

If this is the case, then it might be expected that principals in more bureaucratic schools would have less concern for their staffs than would principals in less bureaucratic schools. Such an attitude might be reflected in the way they rated their staffs on the Group Atmosphere Scale.

By determining the degree of association between bureaucratic structure and GA scores, more information would be gained concerning the relationship between the principal's attitude toward his staff and the degree of bureaucratization perceived to exist in his school. The results of a chi square test of independence(1, p. 169) between total bureaucratic scores and GA scores ($.80 > p > .70$) indicate no association between these two variables. The extent of bureaucratization in these schools, therefore, seems to have little relationship with the attitude of the principal toward his staff. The fact that principals in less bureaucratic schools exhibit more Thrust and Consideration than principals in more bureaucratic schools bears no relationship with the way these principals rate their staffs on the GA scale.

To shed more light on the findings regarding the relationship between principals' behaviors and the degree of perceived bureaucratization, the bureaucratic factors resulting from the factor analysis of the School Bureaucratic Index can be related to the principals' subtests of the Organizational Climate Description Questionnaire. These findings are reported in Table XII.

With the exception of the correlation between Production Emphasis and Factor 5, Thrust and Consideration are the only dimensions of principals' behavior which correlate significantly with any of the

TABLE XII
CORRELATIONS BETWEEN BUREAUCRATIC
FACTORS AND PRINCIPAL BEHAVIORS

(N = 39)

Principal Behaviors	Aloofness	Production Emphasis	Thrust	Consideration
Bureaucratic Factors				
Total Bureaucratic Score	.135 ^a	.180	-.384*	-.429*
Control of Behavior	.009	.212	-.405*	-.420*
Conformity to Procedures	.180	.153	-.444*	-.354*
Efficiency and Expertise	.065	-.051	.181	-.094
Non-bureaucratic Characteristics	.068	.161	-.170	-.259
Defined Procedures	.198	.403*	-.073	-.182

^aPearson product-moment correlation coefficients

*Significant at the .05 level for a two-tailed test

bureaucratic factors. This is in agreement with the findings reported in Table XI and the interpretation which follows.

Examination of the items contributing to Factor 5, Defined Procedures, indicate why it is significantly related to Production Emphasis. These items refer to the fact that procedures and routines introduced by the principal are clearly defined and cover nearly all situations confronted by teachers. The extent to which this condition in a school is similar to the behaviors characterizing Production Emphasis make clear why the two factors are related.

Use of OCDQ Factors

As a final approach in examining the relationship between bureaucratization and school organizational behavior, use can be made of the factors resulting from the varimax rotation of the Organizational Climate Description Questionnaire (see pp. 62-64). Correlations between the OCDQ factors and bureaucratic dimensions are stated in Table XIII.

Of all the behavioral dimensions which are related to bureaucratic factors, Thrust and Consideration and Production Emphasis have the most significant relationships. As indicated in previous tables, Thrust and Consideration are significantly and negatively related to the total bureaucratic score and the two factors, Control of Behavior and Conformity to Procedures, which contribute most to the total score. While it has been found that the original OCDQ subtest of Production Emphasis was not significantly related to the total bureaucratic score, the dimension of Production Emphasis resulting from the factor analysis is related significantly not only to the total score but also to two of the bureaucratic factors. The types of behaviors descriptive of

TABLE XIII
CORRELATION OF BUREAUCRATIC SCORES
AND OCDQ FACTOR SCORES
(N = 39)

OCDQ Factors	1	2	3	4	5	6	7	8
Bureaucratic Factors								
Total Score	-.397*	-.250 ^a	.073	.305	-.254	.324*	.070	.254
Control of Behavior	-.474*	-.191	.048	.361*	-.114	.298	-.154	.225
Conformity to Procedures	-.442*	-.070	-.086	.214	-.393*	.154	.153	.083
Efficiency Expertise	.264	-.199	.271	.157	.055	.027	.102	.159
Non-bureaucratic Char.	-.202	-.237	-.026	.176	-.148	.343*	.080	.194
Defined Procedures	-.130	-.209	.026	.310	-.010	.398*	-.112	.361*

^aPearson product-moment correlation coefficients.

*Significant at the .05 level for a two-tailed test.

OCDQ Factors: 1. Thrust and Consideration
2. Disengagement
3. Resource Availability
4. Hindrance
5. Esprit
6. Production Emphasis
7. Intimacy
8. Miscellaneous

Production Emphasis appear to be associated to some extent with all aspects of bureaucratization and to a significant degree with three of them.

Other significant correlations indicate a positive relationship between Hindrance and Control of Behavior through requirements and regulations, a negative relationship between Esprit and Conformity to Procedures, and a positive correlation between Defined Procedures and the OCDQ factor referred to as Miscellaneous.

III. SUMMARY

This chapter has dealt with the relationship between bureaucratization and the behavior of teachers and principals. These relationships were discovered through the use of correlation and multiple regression techniques. The general conclusions which would have to be drawn is that the degree of bureaucratization in the schools studied had little relationship with the behavior of staff members. Whatever variations existed in the bureaucratic structure of the schools, such variations were related to only a limited extent to the kinds of activities engaged in by teachers.

Some significant relationships were discovered when the factors resulting from the rotation of the School Bureaucratic Index were correlated with teacher behaviors. These indicated that an emphasis on conformity to procedures and organizational norms was associated with a de-emphasis on Esprit. It appears that when relationships between teachers tend to be formal and are based on professional rather than personal considerations, morale among teachers decreases.

At the same time, however, it was found that if teachers perceived their school to be efficiently run and professionally organized, their degree of Intimacy was enhanced.

Through the use of multiple correlation the best weightings of each of the bureaucratic factors for the behaviors of teachers was discovered. It was also found that bureaucratization accounts for about one-quarter of the total variance of each of the teacher behaviors. This seems to indicate that the behaviors of teachers as measured by the subtests of the OCDQ are influenced to a greater extent by other variables than they are by the bureaucratic structure of the school. Chapter VII attempts to look more closely at what these variables might be.

Acknowledging the fact that principals are responsible to some extent for the way bureaucratic controls are established, it was considered useful to examine the relationship between bureaucratization and principals' behavior. The main finding was that in more bureaucratic schools there was a greater degree of Production Emphasis and a decreased amount of Thrust and Consideration. This was interpreted to suggest that principals in more bureaucratic schools are concerned more with maintaining organizational control than they are with satisfying the needs and aspirations of their staff.

Summarizing the findings of correlations between bureaucratization and the factors of the Organizational Climate Description Questionnaire, it was found that bureaucratization, as represented by the total score and the factors of Control of Behavior and Conformity to Procedures was associated with (1) a de-emphasis on Thrust and Consideration, (2)

an increase in Production Emphasis, (3) a feeling of Hindrance on the part of teachers, and (4) a decrease in Esprit among the staff.

It would have to be concluded that although Hypothesis I of this study was not supported, subsequent findings indicate some degree of relationship between bureaucratization and the behaviors of both teachers and principals.

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CHAPTER VI

TESTING THE HYPOTHESES - LEADER ATTITUDES

In this chapter the relationship between LPC scores and the behaviors of principals and teachers will be examined.

I. LPC AND PRINCIPALS' BEHAVIOR

In Hypothesis II the relationship between principals' LPC scores and the subtests of the Organizational Climate Description Questionnaire measuring principals' behaviors were examined. Table XIV presents the correlations which were found.

TABLE XIV
CORRELATIONS BETWEEN LPC SCORES AND OCDQ
DIMENSIONS OF PRINCIPALS' BEHAVIOR
(N = 39)

Principals' Behavior	Aloofness	Production Emphasis	Thrust	Consideration
Correlation with LPC scores	-.085 ^a	-.236	-.269	-.259

^aSpearman rank-order correlation coefficients.

Hypothesis II.1. Principals' LPC scores will be inversely related to the dimension of Aloofness.

The correlation between these two variables, $-.085$, was not significant. The lack of significance of the relationship could result from at least three sources: the fact that the subtest of Aloofness did not come through previous analyses as a well-defined variable, deficiencies in either the concept of LPC or the means by which it is measured, or the fact that a principal's esteem for his least preferred co-worker has little to do with the type of behavior described by this subtest.

In justifying the first explanation, it will be recalled that Aloofness as a subtest did not stand up very well under two types of analysis. When scores for the eight OCDQ subtests were intercorrelated, Aloofness did not correlate significantly with any of the other subtests. As well, in the factor analysis performed on the OCDQ, Aloofness was the only subtest whose items did not load highly enough on any one factor to warrant calling it a factor. These two pieces of evidence would seem to explain the low correlation between Aloofness and LPC scores. Aloofness does not appear to be a strong enough variable to correlate significantly with any other variable, including the LPC.

Acknowledgement of the fact that Aloofness does not seem to be a strong variable does not obviate the possibility of weaknesses inherent in the concept or measurement of LPC. Although Fiedler found LPC scores to correlate significantly with most of the variables he examined, it will be recalled that much of his research was carried out in small face-to-face groups involved in relatively structured situations. The application of Fiedler's concepts to educational institutions, where tasks are often ambiguous and where principal-

teacher interaction is less frequent, may be found to be inappropriate. Until more research has been carried out in schools, it cannot be assumed that use of the LPC will result in the same types of findings as had been the case with the groups Fiedler investigated.

Despite possible deficiencies in the instruments, however, the low correlation between LPC and Aloofness also seems to stem from the fact that a principal's behavior as described by this subtest has little to do with his attitude toward his least preferred co-worker, nor does it reflect variations in the directiveness or permissiveness he displays toward his staff.

In interpreting the findings of Hypothesis II.1, therefore, all of these explanations should be taken into consideration.

Hypothesis II.2. Principals' LPC scores will be inversely related to the dimension of Production Emphasis.

The correlation of $-.236$ between LPC and Production Emphasis is in the hypothesized direction but does not reach significance. To the extent that it is meaningful to discuss a relationship which is not significant, the findings could be interpreted to mean that principals who perceive their least preferred co-worker in a rejecting manner tend to behave in a somewhat autocratic way toward their teachers. Such principals prefer to make all class-scheduling decisions, check the abilities of teachers, correct their mistakes, and ensure that they work to their full capacity. This type of behavior seems to reflect a lack of trust of a principal in his teachers, an attitude which seems to be consistent with the low esteem he has for his least preferred co-worker.

On the other hand, high LPC principals, those who are willing to

minimize the faults of their co-workers, do not engage to such an extent in the behaviors just mentioned. Since they seem to have more confidence in the capabilities of their staff, they allow them more scope in the areas in which they are expected to be competent. In view of the meaning of these variables, the inverse correlation between LPC scores and Production Emphasis seems understandable.

Hypothesis II.3. Principals' LPC scores will be directly related to the dimension of Thrust.

Hypothesis II.4. Principals' LPC scores will be directly related to the dimension of Consideration.

Since the subtests of Thrust and Consideration correlated so highly (.776) and because they behaved in a similar manner when related to LPC scores, they will be discussed together.

Correlations between these variables indicated that not only are they not significant, they are in the opposite direction to that hypothesized. In formulating these hypotheses, it was assumed that principals who had high esteem for their least preferred co-workers would engage in behaviors described by the subtests of Thrust and Consideration. The negative relationship between these variables indicates that this is not the case. Rather, it would have to be interpreted that principals who take personal concern in the welfare of their teachers, who set an example by working hard themselves, and who offer constructive criticism are the same principals who view their least preferred co-workers in a somewhat rejecting manner.

Discussion

In trying to draw together the results of the testing of Hypothesis

II, a number of problems present themselves. The first is attempting to explain the lack of significance of the correlations. As mentioned in the case of Aloofness, there could be deficiencies associated with the measures themselves which militate against stronger relationships. Since the factor analysis of the OCDQ had made available eight factors descriptive of the behaviors of teachers and principals, it was decided to relate these to LPC scores. Without illustrating the findings, it can be stated that the correlations were no larger than those found using the original subtests.

This seems to indicate that any weakness in the variables rests mainly with the LPC instrument. The possibility of the concept of LPC not being appropriate when applied to persons in organizational settings has already been mentioned. To what extent intervening variables between LPC scores and behavior might make a difference in the significance of the correlations will be examined when Hypothesis IV is discussed.

A second problem is trying to explain the fact that LPC scores are correlated in the same direction with Production Emphasis, Thrust, and Consideration, subtests whose behaviors seem inconsistent with each other. The correlations which had been found between these variables indicate that there is no relationship between them (see p. 60). The correlation between Production Emphasis and Thrust was .060, while with Consideration it was .001.

It had been initially assumed that the same type of principal who emphasized the goals of the school by checking the subject-matter ability of teachers would not go out of his way to help teachers with instruct-

ional problems and even do personal favors for them. Yet, when such behaviors are examined more closely, the inconsistencies begin to disappear.

There is no reason why a principal who emphasizes the attainment of the goals of his school should not concern himself with the satisfaction of his teachers. The fact that low LPC principals seem to be those who try to ensure that their teachers work to their full capacity, who talk a great deal, who are in the building before teachers arrive, and who are willing to stay after school to help teachers with their work seems in no way inconsistent. Such persons seem to be both dynamic and aggressive. Yet the behaviors just mentioned are descriptive of the subtests of Production Emphasis, Thrust, and Consideration.

The third difficulty which presents itself is trying to explain the fact that such behavior is associated with principals who view their least preferred co-workers in a rejecting manner. To help to clarify this problem, the findings of other studies might be useful.

The behavior of the low LPC principals in this study is not inconsistent with what Fiedler reports:

Low LPC leaders, on the other hand, give and ask for more suggestions, are less inclined to tolerate or to make irrelevant comments, demand and get more participation from members, and are more controlling and managing in their conduct of group interaction. Low LPC leaders also interrupt group members more often and contribute more statements to the discussion (1, p. 155).

Such behavior is also in agreement with McNamara's findings regarding elementary school principals (2, pp. 187-188).

Seen in the light of these earlier findings, the results of the correlations of LPC scores and principal's behaviors seem less confusing. What tends to emerge is a picture of the low LPC principal as a dominating kind of individual. He is not hesitant to correct teachers'

mistakes, yet he gives reasons for what criticism he makes. He talks a great deal, yet is not reluctant to involve teachers in decision-making. He places emphasis on the goals of the school, yet is willing to help teachers solve personal problems. It would seem that since the low LPC principal is the type of person who feels that what he is doing is right for that situation, he tends to perceive any co-worker who does not go along with him in an unfavorable manner.

II. LPC AND TEACHER BEHAVIOR

In Hypothesis III the relationships between principals' LPC scores and the dimensions of the OCDQ measuring teacher behavior were examined. Table XV presents the correlations which were found.

TABLE XV
CORRELATIONS BETWEEN LPC SCORES AND OCDQ
DIMENSIONS OF TEACHER BEHAVIOR
(N = 39)

Teacher Behavior	Disengagement	Hindrance	Esprit	Intimacy
Correlation with LPC score	.084 ^a	.168	-.026	-.138

^aSpearman rank-order correlation coefficients.

There seems to be no need to investigate each part of Hypothesis

III separately since none of the correlations was significant. The conclusion that can be drawn is that for the total sample of schools the attitude of the principal toward his least preferred co-worker as exemplified in the directiveness or permissiveness of his behavior was not significantly related to the behavior of teachers.

Because it was felt that in all probability the correlations between LPC and teacher behavior would not be significant across the total sample, Hypothesis IV was introduced. This hypothesis was concerned with the effect of Group Atmosphere, which was to be employed as an intervening variable between LPC scores and teacher behavior. Previous research had found that the effectiveness of a leader's behavior was contingent on at least three variables, one of which was GA. It measures the degree to which the behavior of the leader is seen as being acceptable to the group.

In this study the effect of GA was examined by dividing the schools according to their scores on the Group Atmosphere Scale. On the basis of the classification described earlier (see pp. 73-74), 15 of the schools were considered to have low GA scores and 14 to have high GA scores. Hypothesis IV proposed that when schools were grouped according to whether they scored high or low on the GA scale, correlations between LPC scores and teacher behaviors would be significant. Table XVI illustrates the extent to which this actually occurred.

It is obvious from examination of Table XVI that the correlations for high GA schools are much greater than for schools not divided on GA. The extent to which these correlations are significant and the inter-

TABLE XVI
CORRELATIONS BETWEEN LPC SCORES AND OCDQ DIMENSIONS
OF TEACHER BEHAVIOR WITH SCHOOLS
DIVIDED ON GA

Teacher Behaviors	Sample of Schools		
	Total N = 39	Low GA N = 15	High GA N = 14
Disengagement	.084 ^a	-.198	.539
Hindrance	.168	.165	.393
Esprit	-.026	.279	-.495
Intimacy	-.138	-.055	-.363

^aSpearman rank-order correlation coefficients.

pretation of the meaning of these relationships will be discussed separately for each dimension of teacher behavior.

Disengagement

Table XVII indicates the significance levels for correlations between LPC scores and the OCDQ subtest of Disengagement for schools divided according to GA scores.

For the total sample the correlation is not significant, nor is the correlation significant for schools scoring low on the GA scale. However, for the sample of high GA schools the correlation does reach significance. This fact supports Hypothesis IV and indicates the

TABLE XVII
SIGNIFICANCE LEVELS FOR CORRELATIONS BETWEEN
LPC SCORES AND DISENGAGEMENT

Sample	N	rho	t	Level of Significance (two-tailed)
Total	39	.084	.516	NS
Low GA	15	-.198	-.728	NS
High GA	14	.539	2.220	.05 > p > .02

effect of GA as a mediating variable.

Across the total sample of schools the effect of principals' LPC scores on the degree of Disengagement was negligible. For schools whose teachers were less favorably disposed toward the actions of the principal as perceived by the principal, LPC scores tended to be related. The more favorably these principals perceived their least preferred co-workers, the less the degree of Disengagement exhibited by the staff.

Interpretation of the correlation between LPC and Disengagement for high GA schools is relatively straightforward. In schools where the principal perceives that the staff regards his behavior in a favorable manner (high GA) and where principals are less directive and more compliant (high LPC), there is a high degree of Disengagement among the staff. On the other hand, if principals who are perceived to be

highly regarded behave in a more forceful and controlling manner, teachers exhibit few characteristics indicative of Disengagement.

Hindrance

In Table XVIII the significance levels for correlations between LPC scores and Hindrance are indicated for schools grouped according to their GA scores.

TABLE XVIII
SIGNIFICANCE LEVELS FOR CORRELATIONS BETWEEN
LPC SCORES AND HINDRANCE

Sample	N	rho	t	Level of Significance (two-tailed)
Total	39	.168	1.038	NS
Low GA	15	.165	.603	NS
High GA	14	.393	1.483	.20 > p > .10

Correlations between LPC and Hindrance, which were .168 and .165 for the total sample and for low GA schools, tended to approach significance for schools high on GA. This indicates that the degree of Hindrance felt by teachers tends to be higher when principals who are well regarded act in a permissive manner. However, when well-esteemed principals tend to dominate the situation through more directive leadership, teachers feel less burdened by administrative responsibilities.

Esprit

Table XIX indicates the significance levels for correlations between LPC scores and the subtest of Esprit for schools divided according to GA scores.

TABLE XIX
SIGNIFICANCE LEVELS FOR CORRELATIONS BETWEEN
LPC SCORES AND ESPRIT

Sample	N	rho	t	Level of Significance (two-tailed)
Total	39	-.026	-.162	NS
Low GA	15	.279	1.050	NS
High GA	14	-.495	-1.976	.10 > p > .05

Once again it is the case that correlations between LPC and Esprit, which were not significant for the total sample or for low GA schools, approached significance under high GA. The correlation of .279 for low GA schools indicates that Esprit tends to be high in schools where principals whose behavior is not highly regarded act in a manner which is compliant and non-directive. This type of behavior, however, produces a sharp decrease in Esprit when engaged in by principals who are accepted by their staffs. Esprit among teachers appears to be highest when principals who enjoy a good deal of rapport with their staffs provide leadership which is clear and forceful.

Intimacy

In Table XX the levels of significance for correlations between LPC and Intimacy are presented for schools divided on GA scores.

TABLE XX
SIGNIFICANCE LEVELS FOR CORRELATIONS BETWEEN
LPC SCORES AND INTIMACY

Sample	N	rho	t	Level of Significance (two-tailed)
Total	39	-.138	-.851	NS
Low GA	15	-.055	-.201	NS
High GA	14	-.363	-1.349	$p > .20$

Although the correlation between LPC and Intimacy under high GA is not significant, Intimacy appears to follow the same trend as the other teacher behaviors. With conditions of high GA the degree of Intimacy increases when principals score low on the LPC scale. There appear to be closer social relationships among staff members in schools where the principal who is liked and respected behaves in a positive manner.

Conclusion

Data regarding the relationship between LPC and teacher behavior contingent on GA have tended to support Hypothesis IV of the study. In all cases it was in high GA schools that any significant relationships

occurred. This seems to indicate that it is in schools where there is an affective orientation of the staff toward the principal that the attitude of the principal toward his least preferred co-worker as exemplified in his behavior has its most pronounced effect.

In high GA schools where principals perceived their least preferred co-worker in a relatively favorable manner, Disengagement and Hindrance tended to be high and Esprit and Intimacy low. The opposite occurred in high GA schools where principals who were accepted by their staffs (high GA) and whose behavior tended to be controlling and managing (low LPC) were found in schools where teachers experienced a high degree of morale (high Esprit), enjoyed friendly relations with one another (high Intimacy), did not feel burdened by administrative responsibilities (low Hindrance) and did not behave in a manner inappropriate for their position (low Disengagement).

III. SUMMARY

Results from Hypotheses II to IV taken together indicate the relationship between LPC and school organizational behavior. The attitude of a principal toward his least preferred co-worker is related to some extent to his own behavior as measured by the OCDQ dimensions. Low LPC principals tend to behave in a manner which emphasizes production and yet promotes member satisfaction. The behavior of high LPC leaders is less clearly defined. In fact, it is almost impossible from the data available to determine what characterizes the behavior of principals who rate their least preferred co-worker in a favorable manner.

The way a principal's attitude toward his least preferred co-worker reflects itself in his leader behavior was found to be related to the behavior of teachers. Provided there is strong rapport between the principal and his staff, the LPC score of the principal is significantly related to the behavior of teachers. Provided the principal perceives that he is highly regarded by his staff Disengagement and Hindrance can be reduced and Esprit and Intimacy increased by behavior which is positive and forceful.

REFERENCES FOR CHAPTER VI

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CHAPTER VII

PREDICTING SCHOOL ORGANIZATIONAL BEHAVIOR

This study has been concerned with the relationship between the behaviors of teachers and principals and the variables of bureaucratization and LPC. In investigating these relationships correlational techniques have been used almost exclusively. Another procedure which is also appropriate is the use of multiple regression. In this approach the subtests of the Organizational Climate Description Questionnaire are posited as criterion variables while bureaucratic factors and LPC and GA scores are predictor variables.

If these factors alone were used as predictors, only a limited percentage of the variance of each of the OCDQ subtests would be accounted for. To get a broader understanding of the extent to which other variables act as predictors of teacher and principal behavior, other predictor variables would need to be included. Extending the number of predictor variables beyond those of bureaucratization and LPC would also serve to place these variables in perspective with other types of factors which might have an influence on school organizational behavior.

The following variables will be used, then, as predictors of the subtests of the OCDQ:

- Total bureaucratic score
- Control of behavior
- Conformity to procedures
- Efficiency and expertise
- Non-bureaucratic characteristics
- Defined procedures

LPC
GA

Number of students
Number of teachers
Pupil-teacher ratio

Years of principal in present school
Principal's experience as a teacher
Principal's experience as a principal
Principal's training

Years of teachers in present school
Teachers' experience
Teachers' age
Teachers' sex
Teachers' training

Rated school effectiveness
Rated principal effectiveness
Teacher satisfaction

Disengagement
Hindrance
Esprit
Intimacy
Aloofness
Production Emphasis
Thrust
Consideration

The purpose of this analysis is to ascertain what variables are most predictive of the behaviors of principals and teachers and the relative contribution made by each. Of special concern is the predictive power of bureaucratic factors and LPC scores and how these variables compare with the other predictor variables. It is anticipated that the findings of the regression analyses will be of interest not only in a theoretical sense but will also have some practical applications for administrators and other educational personnel.

I. TEACHER BEHAVIORS

Tables XXI to XXIV present the multiple regression analyses of the four teacher variables measured by the Organizational Climate Description Questionnaire. In each case the independent variables are significant according to the F test with N-1 degrees of freedom. In some cases more variables than those listed also made significant contributions to the criterion variable, but they accounted for such a small part of the variance that they were not included in the table. As in previous analyses the cumulated percent of the variance accounted for has been reduced through procedures outlined by Guilford (2, p. 401). Correlations between the independent and dependent variables are all Pearson product-moment correlation coefficients.

Disengagement

This subtest has proven to be one of the more nebulous dimensions of teacher behavior as measured by the OCDQ. It describes a number of activities carried out by teachers which characterize behavior that is out of touch with the functions teachers are expected to perform. Since such diverse behaviors as seeking special favors from the principal and talking about leaving the system are included under Disengagement, it is difficult to discover variables that contribute significantly to the variance of this dimension.

Accounting for 26.64 percent of the variance of Disengagement is Esprit. The negative correlation between these variables indicates that it is the lack of Esprit among teachers which contributes to Disengagement. Disengaged behavior is most pronounced in schools where morale is low and teachers find it difficult to accept the shortcomings of

TABLE XXI

MULTIPLE REGRESSION PREDICTION OF
DISENGAGEMENT

(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Esprit	-.516	26.64	26.64	26.64
2.	Hindrance	.513	13.87	40.52	37.93
3.	Number of Students	-.357	6.82	47.34	40.10
4.	Principal's Experience as a Principal	-.132	7.22	54.55	39.90
5.	Intimacy	-.096	4.20	58.75	33.57

other teachers. The fact that Hindrance contributes the next largest percent of the variance indicates that the feeling among teachers that they are burdened by administrative responsibilities contributes to behavior characterizing Disengagement. Summarizing the effect of these two variables, it can be said that behaviors which are found to be annoying are more pronounced in schools where teachers do not take pleasure in their work and feel that non-teaching functions are impinging on their time. If they are not pleased with the way things are going, teachers are more likely to engage in Disengaged behavior.

Three other variables were found to be predictive of Disengagement. The size of the school as represented by the number of students was one of these. The inverse relationship indicates that in schools with fewer students there appears to be more Disengagement among teachers. This could be explained by the fact that in smaller schools the behavior of teachers, including their deviant behavior, is more visible and thus more widely recognized. The number of years the principal has been a principal also contributes to the decrease of Disengagement among the staff. In schools where the principal has had considerable experience in his position, teachers seem to be more reluctant to engage in unacceptable behavior. The last variable included in Table XXI is Intimacy. It appears that teachers who are familiar with each other and enjoy each other's company display fewer behaviors which might tend to annoy their colleagues.

Hindrance

More straightforward in meaning than Disengagement is the teacher behavior of Hindrance. It refers to perceptions on the part of

TABLE XXII

MULTIPLE REGRESSION PREDICTION OF
HINDRANCE

(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Disengagement	.513	26.39	26.39	26.39
2.	Number of Teachers	.102	7.99	34.37	31.62
3.	Conformity to Procedures	.288	3.56	37.39	30.36
4.	Bureaucracy	.071	5.59	43.52	28.40
5.	Principal's Experience as a Principal	-.045	4.67	48.19	22.59
6.	Principal's Training	.171	6.11	54.30	16.42

teachers that routine duties interfere with the job of teaching. The variable found to contribute most to Hindrance was Disengagement. It seems to be the same feeling of discontent that results in annoying behavior among teachers which reflects itself in teachers' negative attitudes toward administrative responsibilities. It is in schools where Disengagement is most prevalent that teachers feel burdened by administrative reports and committee requirements.

The number of teachers in the school also contributes to the prevalence of Hindrance. Perhaps the number of teachers simply reflects the size of the school, a factor which could result in more administrative work being required of teachers. Why staff size alone should affect the attitude of teachers toward such work is difficult to determine.

Hindrance is one of the few behavioral variables found to be affected by bureaucratization. The total bureaucratic score and one of the bureaucratic factors both contributed to the dimension of Hindrance. Conformity to organizational procedures was the bureaucratic dimension most predictive of Hindrance. In schools where teachers are obliged to follow strict operating procedures and conform to the norms of the organization, there is a greater tendency for them to feel hindered by requirements imposed on them by administrators. As well as this one bureaucratic factor, all aspects of bureaucracy contributed to the prevalence of Hindrance.

Finally, two factors concerning the principal were predictors of Hindrance. The experience of the principal as a principal was found to reduce feelings of Hindrance, whereas the amount of training the

principal had tended to increase it. Experienced principals either did not require teachers to perform as many administrative duties or else they were able to convince them of the value of such duties. In doing the opposite, however, principals with more years of training contributed to the amount of Hindrance perceived by teachers.

Esprit

Perhaps the most desirable of all the teacher behaviors measured by the OCDQ is that of Esprit. It describes teachers who experience a high degree of morale, who enjoy working together and who like to get things done. The factor which contributes most to this state of affairs is teacher satisfaction. It is primarily teachers who are satisfied with all aspects of their job who engage in behaviors characterized by Esprit. Also of importance as a predictor of Esprit is Intimacy. The degree to which teachers enjoy working and socializing together will in part determine the extent of Esprit existing among them. The number of students in the school was also found to be predictive of Esprit. The more students there were, the higher was the morale among teachers. Why this is the case is not readily apparent except for the obvious interpretation that teachers in larger schools experience more Esprit than those in smaller schools.

Three other variables also contributed to Esprit but in a negative direction. The more years the principal had spent in his present school, the lower the degree of Esprit. The more bureaucratic features were perceived to exist in the school, the lower the degree of Esprit. And the more teachers behaved in a disengaged manner, the lower the degree of Esprit. It is obvious from this that a great variety of

TABLE XXIII

MULTIPLE REGRESSION PREDICTION OF

ESPRIT

(N = 39)

Order of entry in regression analysis	Variable	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Teacher Satisfaction	.662	43.92	43.92	43.92
2.	Intimacy	.589	8.43	52.36	49.61
3.	Number of Students	.330	11.44	63.80	56.63
4.	Years of Principal in Present School	-.178	5.83	69.62	54.93
5.	Total Bureaucratic Score	-.165	5.83	75.46	50.41
6.	Disengagement	-.516	5.45	80.91	41.68

factors can contribute to the degree of Esprit experienced by teachers.

Intimacy

The variables which contribute most to friendly social relations among staff members are presented in Table XXIV. Most important among these is Esprit. This indicates that Intimacy is most pronounced among teachers whose morale is high and who are willing to accept the faults of their colleagues. Contributing to Intimacy in an inverse direction is teacher training. The more training teachers had the lower the degree of Intimacy among them. This is an interesting finding but one which is difficult to explain.

Another interesting finding was the effect of the next variable, sex. The higher the proportion of men on staff, the friendlier will be the social relations that will exist. This may reflect the fact that women, who are often homemakers as well as teachers, do not have the time to take part in the out-of-school kinds of socializing which are part of what Intimacy represents. The negative effect of Disengagement and the positive effect of Principal Effectiveness on Intimacy are readily understandable.

II. PRINCIPALS' BEHAVIORS

The Organizational Climate Description Questionnaire describes four dimensions of principals' behavior which include Aloofness, Production Emphasis, Thrust, and Consideration. In terms of their relationship with other variables it has been found that Aloofness and Production Emphasis are rather weak, whereas Thrust and Consideration are relatively strong. The multiple regression tables on the following

TABLE XXIV
MULTIPLE REGRESSION PREDICTION OF
INTIMACY
(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Esprit	.589	34.76	34.76	34.76
2.	Teacher Training	-.130	11.71	46.47	43.83
3.	Sex	-.420	10.00	56.47	49.33
4.	Disengagement	-.180	7.08	63.55	48.98
5.	Principal Effectiveness	.565	4.01	67.56	42.44

pages indicate similar findings. Since Aloofness and Production Emphasis are variables which are less clearly defined, the contributions of various factors to them account for only a small part of their variance. No one factor accounts for more than twenty percent of the variance of either Aloofness or Production Emphasis.

Part of the strength of Thrust and Consideration results from the correlation of .776 between them. This indicates that in the schools of this study, teachers perceived principals who were high on one of these dimensions to be high on the other. The fact that items for both Thrust and Consideration loaded on the same factor of the varimax rotation is further proof of the close relationship between them. Principals who were interested in their teachers went out of their way to help them with their professional activities and were prepared to assist them with their personal problems. If they were concerned with their teachers at all, principals were concerned with them both as staff members and as people.

Aloofness

Production Emphasis was the variable which contributed most to the dimension of Aloofness, although it accounted for less than ten percent of the variance. Principals who emphasize production by controlling the activities of teachers tend to engage in behaviors characteristic of Aloofness. Three biographical characteristics of teachers were also found to contribute to Aloofness. The more experience teachers had and the longer they had been in their present school, the more Aloofness they perceived to exist. The more training they had, however, the less the degree of Aloofness. Finally, GA was a predictor of

TABLE XXV
MULTIPLE REGRESSION PREDICTION OF
ALOOFNESS

(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Production Emphasis	.312	9.75	9.75	9.75
2.	Teacher's Experience	.259	7.83	17.58	14.82
3.	Teacher's Training	-.183	4.22	21.80	14.26
4.	GA	-.171	4.75	26.55	11.39
5.	Teacher's Years in Present School	.016	5.24	31.78	6.21

Aloofness indicating that the less teachers are willing to accept the behavior of the principal the more Aloofness they perceived to exist in the school.

Production Emphasis

The variable which contributed most to Production Emphasis was one of the factors of bureaucracy resulting from the varimax rotation, Defined Procedures. Of the four items loading heavily on this factor, two of the items referred to general procedures, one described going through channels, while one dealt with the replacement of key staff members. Whatever these items have in common, as a factor they contribute 16.21 percent to the variance of Production Emphasis. It is understandable that bureaucratic characteristics should be predictive of Production Emphasis since both of these variables reflect the activities of principals who want to be in control over teachers and tend to treat them in a subordinate manner.

The finding that Intimacy and sex both contribute to Production Emphasis is rather interesting. Why friendly social relations among staff members on and off the job should be predictive of Production Emphasis is difficult to comprehend. More readily understandable is the finding that a higher proportion of women on the staff leads to more Production Emphasis. Principals who perceive that women are more submissive than men are more willing to make decisions for them in the area of their teaching.

Principal effectiveness and principal training also contributed to Production Emphasis. Principals who were perceived to be doing an effective job were those who ensured that teachers worked to their full

TABLE XXVI

MULTIPLE REGRESSION PREDICTION OF
PRODUCTION EMPHASIS

(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Defined Procedures	.403	16.21	16.21	16.21
2.	Intimacy	.274	7.78	23.99	11.19
3.	Sex	.181	8.04	32.03	14.64
4.	Principal Effectiveness	.077	7.38	39.41	14.61
5.	Principal's Training	-.086	5.53	44.94	9.75

capacity. However, the more training a principal had the less he tended to emphasize production in his school.

Thrust

Sixty percent of the variance of Thrust is accounted for by Consideration. This indicates that principals who are willing to help teachers with their personal problems are also prepared to assist them with their professional tasks. The principal's "Consideration" for teachers is a very strong predictor of the degree of "Thrust" he will expend on the job. Also accounting for a significant degree of the variance is Principal Effectiveness. Teachers' opinions regarding the effectiveness of the principal also contributes to their perception of the prevalence of Thrust.

Accounting for a much smaller percentage of the variance are the variables of sex, teachers' age, and Esprit. The higher the proportion of men on staff, the older the teachers, and the higher the morale, the more Thrust will be exhibited by the principal.

Consideration

As expected from the high correlation between Thrust and Consideration, Thrust is the main predictor of Consideration, accounting for more than sixty percent of the variance. The interpretation of this finding seems hardly necessary in view of previous results. The second best predictor of Consideration is the years of experience the principal had as a teacher. The negative correlation between these variables indicates that the longer the principal had been a teacher the less interested he is in becoming involved in the personal concerns of his staff. Such principals seem to perceive the function of admin-

TABLE XXVII
MULTIPLE REGRESSION PREDICTION OF
THRUST
(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Consideration	.776	60.30	60.30	60.30
2.	Principal Effectiveness	.630	11.95	72.25	69.61
3.	Sex	-.090	3.24	75.49	68.02
4.	Teacher's Age	.063	1.72	77.21	61.88
5.	Esprit	.606	1.54	78.75	52.59

TABLE XXVIII
MULTIPLE REGRESSION PREDICTION OF
CONSIDERATION

(N = 39)

Order of entry in regression analysis	Variables	Correlation with criterion variable	Per cent of variance accounted for stepwise	Cumulated per cent of variance accounted for	Corrected cumulated per cent of variance accounted for
1.	Thrust	.776	60.29	60.29	60.29
2.	Principal's Experience as a Teacher	-.384	7.84	68.14	65.37
3.	Pupil-Teacher Ratio	-.357	4.16	72.30	64.74
4.	Aloofness	-.200	3.25	75.55	60.25

istration as being other than the activities characterized by Consideration.

For the first time pupil-teacher ratio has emerged as a predictor of school organizational behavior. The higher the pupil-teacher ratio, the lower the degree of Consideration. Principals who require teachers to instruct larger classes are perceived to be less concerned about the welfare of their staff. Lastly, principals whose behavior is characterized by Aloofness are considered to be low on the dimension of Consideration.

III. SUMMARY

This thesis has been concerned with the behavior of teachers and principals in large secondary schools. The specific behaviors studied have been conceptualized as dependent variables. This chapter has presented analyses which indicate what these behaviors are in fact dependent upon. Not only does multiple regression indicate the independent variables involved, it determines whether these variables are significantly related to the dependent variables and the percent of the variance they account for.

It is obvious from the tables that a great variety of factors can be predictive of school organizational behavior. These include subjective measures such as teacher satisfaction and rated principal effectiveness, as well as the more objective variables of pupil-teacher ratio and years of experience. In many cases the factor which contributed most to a particular behavior was another behavior. The percent of the variance accounted for by the most significant factors

ranged from 9.75 to 60.30, indicating the extent to which one factor could be predictive of the criterion variable.

Of the two independent variables with which this study was concerned, LPC and bureaucracy, only bureaucracy emerged as a significant variable in these regressions. The total bureaucratic score or one of the bureaucratic factors was related to a behavior of teachers or principals in three cases. Conformity to Organizational Procedures and the total bureaucratic score were both significantly related to Hindrance. The total bureaucratic score was a negative predictor of Esprit and accounted for 5.83 percent of the variance. The fifth bureaucratic factor, Defined Procedures, accounted for 16.21 percent of the variance of Production Emphasis.

The attitude of the principal toward his least preferred co-worker was not significantly predictive of any behavior. In view of the fact that the total sample of schools was used in the analyses, this was understandable. Had the schools been divided on the basis of their GA scores, LPC scores would probably have had a more significant effect.

The findings of multiple regression tend to substantiate what had been discovered about the relationships among these variables: that a high degree of bureaucratization in a school tends to be associated with an increase in Production Emphasis on the part of the principal, an increase in perceptions of Hindrance among the staff, and a decrease in Esprit on the part of teachers; and that LPC scores bear no significant relationship to the behavior of principals and teachers across the total sample of schools.

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CHAPTER VIII

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

In this chapter the results of the study will be summarized, some conclusions drawn, and implications for research and practice discussed.

I. SUMMARY

This study has been concerned with adult behavior as it is found in schools and with factors which might act as determinants of that behavior. It was recognized at the outset that a number of variables could serve to influence human behavior, but that these variables were mainly of two types--personality variables and situational variables. Although considered to be of importance, personality variables were largely ignored in an effort to concentrate on organizational variables and their relationship with behavior. From among the many possible variables which could serve to modify school behavior, two were selected for use in this study. One was related to the structure of the organization while the other reflected the attitudes of the leader. Both have been the subject of considerable research in different types of organizations. The kinds of behaviors examined were those of teachers and principals in secondary schools, behaviors which manifested themselves as a result of the interaction between teachers and principals.

As a framework for determining relationships among these variables, Lewin's theory of behavior as a function of personality and

environment was employed. Considered to be aspects of the environment in which school personnel find themselves, the two variables of bureaucratic structure and leader attitudes were conceptualized as independent variables. Related to these as dependent variables were the behaviors of teachers and principals. Four major hypotheses were proposed regarding the relationships among these variables.

In order to test these hypotheses, principals and teachers in thirty-nine high schools in the province of Saskatchewan completed questionnaires which measured (1) the behavior of teachers and principals as defined by the Organizational Climate Description Questionnaire, (2) the degree of bureaucratization of the school according to the School Bureaucratic Index, (3) the principal's attitude toward his least preferred co-worker measured by the Least Preferred Co-worker Rating scale, (4) the affective orientation of the staff toward the principal as defined and measured by the Group Atmosphere Scale, and (5) information regarding characteristics of the staff, the school, and the student body. Data from these sources were used to carry out preliminary analyses on the four main instruments which were used and to test the hypotheses of the study.

Preliminary Findings

Intercorrelations of the subtest scores of the Organizational Climate Description Questionnaire revealed a pattern of relationships consistent with the findings of previous studies using this instrument (1). While some of the subtests correlated highly with two or three other subtests, some did not correlate significantly with any of the others. The weaknesses of some of the subtests was also revealed in

a factor analysis performed on the data. An eight-factor varimax rotation indicated that some of the items had shifted from their original subtests and could be considered descriptive of one or more of the other subtests, while other items did not load heavily on any of the factors.

The results of an F-test on the data of the School Bureaucratic Index indicated that the schools in the sample differed significantly in their degree of bureaucratization. Subsequent analysis revealed that this differentiation was not simply a function of variations in school size. Although these two variables were found to be significantly related, the relationship could not be considered to be a strong one. There were obviously internal factors independent of school size which accounted for differences in the degree of bureaucratization as perceived by teachers.

A factor analysis using a varimax rotation produced some interesting findings. It indicated that the School Bureaucratic Index, although yielding a total bureaucratic score, could be broken down into meaningful dimensions. Multiple regression revealed that almost two-thirds of the variance on the total bureaucratic score could be accounted for by one factor--control of behavior through regulations and requirements. When the items loading heavily on the fourth factor were examined, it was discovered that the only thing these items had in common was that they were scored negatively when the questionnaires were coded. That these items all emerged on the same factor indicated that teachers responded to them in a similar manner, a response which suggested that teachers tended to perceive their schools as being other than bureaucratic in character. These factors

were used, as well as the total bureaucratic score, in testing the first hypothesis of the study.

In an attempt to detect weaknesses in the items of the School Bureaucratic Index, two screening devices were applied: loadings on the factor analyses and correlations with the total bureaucratic score. On the basis of these statistical procedures a number of items emerged, four of which fell below the acceptable standard imposed for each criterion. Examination of the content of these items indicated little in common. Only in the case of one item was it understandable why it had shown up so poorly. This item dealt with teacher evaluation, an aspect of schools which seems remote from the commonly accepted characteristics of bureaucracy.

Analyses performed on the data of the Least Preferred Co-worker Rating Scale and the Group Atmosphere Scale indicated their means and standard deviations, and the method by which schools were categorized as high or low on GA.

Testing the Hypotheses

Hypothesis I. This hypothesis dealt with the relationship between bureaucratization and the four teacher behaviors of the OCDQ: Disengagement, Hindrance, Esprit, and Intimacy. Based on theory and research suggesting that bureaucratic structure was related to organizational behavior, four directional hypotheses were formulated. Results of Pearson correlations indicated no significant relationships among these variables.

It was concluded that differences in the degree of bureaucratization perceived to exist in the schools were not associated with

differences in the behavior of teachers. Whatever other factors were related to teacher behavior, perception of bureaucratic structure was not one of these. Although bureaucratization was evident in all the schools to some extent, it was not perceived as being the type of variable which would influence the behavior of teachers.

When the factors resulting from the factor analysis of the School Bureaucratic Index were correlated with teacher behaviors, some significant relationships were discovered. These indicated that an emphasis on conformity to procedures was associated with a de-emphasis on Esprit, while perceptions of teachers that their school was being efficiently run was associated with high Intimacy.

Calculations of R^2 for each of the teacher subtests indicated that the best combination of all bureaucratic factors accounted for less than thirty percent of the total variance of each of the teacher behaviors.

When bureaucratic factors were related to the behaviors of principals it was found that in more bureaucratic schools there was a greater degree of Production Emphasis and a decreased amount of Thrust and Consideration.

It was concluded that although Hypothesis I was not supported in terms of the relationship between the total bureaucratic score and teacher behaviors, subsequent findings indicated some degree of relationship between bureaucratization and school organizational behavior.

Hypothesis II. Hypothesis II concerned the relationship between principals' LPC scores and their behavior as measured by the subtests of the OCDQ. None of the correlations proved to be significant. To the

extent that it was considered legitimate to discuss the meaning of relationships which are not significant, the following interpretation was suggested. What seemed to emerge was a picture of the low LPC principal as one who is concerned with both goal achievement and group satisfaction. He seems to be a dominating kind of individual, totally involved with all aspects of the situation in his school. Such principals, it was found, showed little tolerance for the person considered to be their least preferred co-worker.

Hypothesis III. This hypothesis dealt with the relationship between principals' LPC scores and the four dimensions of teacher behavior. Spearman correlation coefficients indicated no significant relationships. This finding was not altogether unexpected since Fiedler's model had emphasized the importance of intervening variables between leader attitudes and organizational performance (2).

Hypothesis IV. Of the three intervening variables examined by Fiedler, one was selected for use in this study. This was the degree of acceptance of the leader by the group as measured by the Group Atmosphere Scale. It was hypothesized that when schools were grouped according to whether they scored high or low on the GA scale, relationships between LPC scores and teacher behaviors would attain a higher level of significance.

This proved to be the case. Correlations which were not significant for the total sample of schools were found to be significant for schools high on GA. This indicated that in schools where the orientation of the staff toward the principal was favorable, the attitude of the principal toward his least preferred co-worker was most noticeably

associated with teacher behavior. The following types of teacher behavior were found to be related to low LPC principals in high GA schools: high Esprit, high Intimacy, low Hindrance, and low Disengagement.

II. CONCLUSIONS

The basic premise underlying this study was that organizational variables are related to organizational behavior. This section discusses the extent to which this held true for the kinds of variables examined in this study.

Bureaucratization

The total degree of bureaucratization perceived by teachers to exist in their schools did not correlate significantly with their behavior as measured by the dimensions of the OCDQ. Although the schools sampled were found to differ significantly in their degree of bureaucratization, such differences were not associated with differences in teacher behavior. It was contended that either bureaucratic features were not pronounced enough in any of the schools to be related to teacher behavior or that these characteristics were sufficiently general and diffused that they did not elicit a common behavioral response.

When the bureaucratic factors which were found to make up the total bureaucratic score were correlated with teacher behaviors, two significant relationships emerged. Despite these findings, however, it was generally concluded that the bureaucratic structure of a school as perceived by its teachers was associated to only a limited extent with the behavior of teachers.

With the behavior of principals, however, the relationships were

more significant. Being more closely associated with, and in some cases responsible for, the bureaucratic characteristics of their schools, principals engaged in some behaviors which were significantly related to the degree of bureaucratization perceived to exist. The negative correlation between the total bureaucratic score and Thrust and Consideration suggested that principals who were found in more bureaucratized schools took less of an interest in the personal and professional problems of their teachers than did principals in less bureaucratic schools. Their orientation appeared to be more toward maintaining organizational control than promoting teacher satisfaction, a finding which was not associated with differences in the affective orientation of the staff as perceived by the principal.

As well as the correlations which were found between bureaucratization and the behavior of teachers and principals, bureaucratic factors were found to be significant predictors of some of these behaviors. The results of multiple regression indicated that bureaucratization was associated with an emphasis on Hindrance and Production Emphasis and a de-emphasis on Esprit. It would seem that in schools characterized by a high degree of bureaucratization, principals are more concerned with the goals of the organization than with the needs and problems of teachers. When this occurs teachers tend to feel burdened by administrative responsibilities and accomplish their work without much enthusiasm.

Leader Behavior

One of the purposes of using LPC as a variable in this research was to gain a better understanding of the meaning of the concept.

Although much has been learned about the behavior of high and low LPC leaders, it was recognized that more information would be of value in further delimiting the concept. Correlations between LPC scores and principals' behaviors indicated that the relationship between these variables was not a strong one. In fact the lack of significance of the correlations make it almost impossible to say anything conclusive about the behavior of principals who score high or low on the LPC scale.

The only evidence which suggests that high and low LPC principals do behave differently was found when LPC scores were related to teacher behaviors. Whatever the type of leadership was that low LPC principals engaged in, teachers responded to it in a definite manner, provided such leadership was considered acceptable to them. This degree of acceptance was determined by GA scale scores, which were used to classify schools as high or low in group acceptance. Across the total sample and for low GA schools, LPC scores were not significantly related to teacher behavior. For schools high on GA, however, it was a different matter. Here significant relationships occurred for all teacher behaviors. It was found that principals who were accepted by their staffs (high GA) and whose behavior tended to be directive and managing (low LPC) were found in schools where teachers experienced a high degree of morale (high Esprit), enjoyed friendly social relations with one another (high Intimacy), did not feel burdened by administrative responsibilities (low Hindrance) and were not out of touch with the functions they were expected to perform (low Disengagement).

III. IMPLICATIONS

For Practice

One of the opening statements of this thesis was that an understanding of organizational variables and the relationships these have with the behavior of educational personnel would seem to be of considerable value for the successful administration of schools. The findings of this study should have increased that understanding on the part of administrators. Whether it will enhance the administration of schools is yet another question, one which will be explored in this section.

It was the contention of this thesis that schools are involved in the trend for organizations to become more bureaucratized. Faced with expanded enrolments, increased specialization and greater complexity, schools are becoming increasingly bureaucratic. The effects of this bureaucratic coloration have been seen to be both a curse and a blessing, depending on the criteria which have been employed.

In reviewing previous research which has applied a bureaucratic model to schools, it can be said that the effect of bureaucratization on almost any other organizational variable has been minimal. Although MacKay found pupil productivity to be significantly related to one of his bureaucratic subtests, he concluded that the traditional bureaucratic model was not descriptive of the schools he studied (5). In Hartley's study (3) little agreement was found in the way teachers perceived the bureaucratic elements of their schools, and that these perceptions bore no relationship to satisfaction, effectiveness, or conformity. Interviewing teachers in only four schools, Keene (4) thought he had discovered a trend regarding the effects of group norms

as mediating variables between teachers and administrators. Yet in the largest school this trend was halted when it was found that teachers did not resist efforts to restrict their freedom.

In the present study it was discovered that if the degree of bureaucratization was related to school organizational behavior, the relationship could be considered both desirable and undesirable. This was due to the fact that educational personnel responded differently to different aspects of bureaucratization. Principals in bureaucratic schools stressed production emphasis with a corresponding increase in hindrance on the part of teachers. Principals who de-emphasized Thrust and Consideration were found in schools where there was a decline in Esprit.

What this seems to indicate is that if bureaucratic structure is going to be related to teacher behavior, this will be due not so much to the bureaucratic structure itself but to the behavior of the principal as he relates this structure to the on-going activities of the school. This study has revealed that it is not the bureaucratic features alone which are important; it is the way these features are administered which makes a difference. Procedural specifications, specialization, impersonality, hierarchy of authority--these bureaucratic characteristics tend to be neither desirable or undesirable in themselves. It is only when these become associated with certain types of administrative behavior that their effect on teachers becomes pronounced.

It is not the bureaucratic features of schools alone which are going to be associated with certain types of teacher behavior. Such associations are going to become obvious only if teachers respond

negatively to the types of principal behavior which tend to accompany bureaucratization. If principals, therefore, are concerned that an increase in the number of bureaucratic requirements is going to be associated with what they consider to be undesirable types of behavior, they can consider the findings reported here. To a great extent it is going to be the way they relate these bureaucratic characteristics to the staff which will be the deciding factor. If principals carry out this function by emphasizing production and ignoring teacher problems, morale is likely to suffer. If, on the other hand, they attempt to increase the efficiency and predictability of the organization so that teachers know where they stand in respect to the requirements imposed upon them, teachers will tend to perceive the school as being effective.

One of the problems brought to light by modern organization theorists has been that of integrating the individual and the organization. While scientific management had postulated that what was good for the organization was good for the individual, and human relations considered the reverse to be true, modern organization theory has contended that there is a basic conflict between the needs of individuals and the goals of organizations. This conflict, it is maintained, can only be alleviated by adjustments on the part of both factors. How to improve the fit, then, between the organization and the individual is one of the basic concerns of administrators.

Findings regarding LPC and GA in the study indicate that group performance is contingent upon the appropriate matching of leadership style and the degree of favorableness of the group situation for the leader. One aspect of the group situation which has been found to be

important is the acceptance of the leader by the group. In this study GA emerged as a strong variable mediating principals' LPC scores and teacher behavior. Provided the principal's leadership is acceptable to the staff, he can behave in a manner which would be found totally inappropriate in a situation where his behavior was not favorably regarded.

Results of this study support what social psychologists have been coming to realize, that there is no one best style of leadership which is appropriate in all cases. It is obvious that the success of a particular kind of leadership is going to depend on a number of factors in the situation, most important of which might be the affective orientation of the staff toward the principal.

As far as promoting the most desirable behavior and attitudes on the part of teachers is concerned, this study indicates that the best combination is a low LPC leader working in a situation characterized by high GA. In terms of the results desired, no other combination appears to work as well. High LPC leaders in low GA schools seem to have little impact on the way teachers behave. Teachers, it would seem, are most satisfied in schools whose principals have a low score on the LPC scale.

It cannot be determined from the data whether the behavior characteristic of low LPC leaders inspires a high degree of acceptance on the part of teachers or whether such behavior is a response on the part of the principal to his perception of being accepted by the staff. It is highly probable that both types of perception would enter into the situation.

Regarding the integration of leader behavior and staff acceptance,

the task confronting the school administrator is twofold: how to assess the type of leadership he provides and the acceptability of his behavior for the staff, and how to bring about a combination of these two which will result in the most desirable behavior on the part of teachers. Such a task is not easy. One of the simplest methods of assessing leader behavior and group acceptance would be to complete the LPC and GA scales. Here two difficulties are evident. Knowing the theory behind these instruments might tend to bias the principal's response, rendering the results invalid. The other problem is that of interpreting the findings. Unless there are norms available against which he can compare his scores, a principal would not know whether they were, in fact, high or low.

Even if such a procedure might satisfy a principal that there was an appropriate matching between his LPC score and GA, for reasons beyond the scope of these variables the situation in his school might be far from desirable. Being able to perceive that this is the case is something an administrator should be able to do. Although it would seem relatively straightforward for a principal to determine whether his staff is behaving in ways he considers appropriate, it is obvious that this is not always the case. The findings of this study suggest that some principals are not aware of the degree of dissatisfaction existing among their teachers, or else being aware of it, they are unable to do anything to alleviate it.

If the perception of principals is not acute enough to enable them to recognize whether their teachers are satisfied or dissatisfied, knowledge of theories of leadership is not going to help the situation

greatly. Principals who would like to adjust their behavior to the expectations of those around them must first become aware of the type of leadership they are providing and the acceptability of this leadership for their staff. If research such as this can at least make administrators aware of the variables involved in leader-group relations, it can be considered worthwhile. If it can assist leaders in improving the fit between their behavior and the reactions of their staff so that the goals of the school are more readily achieved, such research can be considered to be of significant value.

Implications For Research

The question of whether the bureaucratic model is an appropriate one for examining the organizational structure of schools has intrigued educational researchers for some time. It is obvious that all schools, especially larger ones, possess many of the bureaucratic characteristics discussed in the literature. Yet it would appear at the same time that these features are not perceived to be particularly salient for the functioning of the school. Reactions on the part of teachers to the bureaucratic structure of the school seems to be conditioned by the behavior of administrators and by individual differences existing among the staff.

If it can be assumed that the bureaucratic model is still a useful tool for analyzing the organizational structure of schools, what implications for further research are suggested by this study?

The first is the necessity of going beyond what can be measured with questionnaires and probing more deeply into the behavioral variables involved. This is especially true of the actions of principals, who

seem to adopt different types of behavior in relating bureaucratic requirements to the activities of the school. If the conclusion of this study is accurate that teachers respond more to the way bureaucratic requirements are imposed than to the requirements themselves, then some means need to be developed for assessing differences in administrative behavior associated with bureaucratic structure.

The findings of this study show that schools of similar size and complexity may be perceived to have almost identical bureaucratic scores and yet differ significantly in the kinds of behavior which occurs among teachers. If it can be assumed that part of this difference can be accounted for by variations in the behavior of principals, then such behavior needs to be thoroughly examined. Observation and interview techniques would probably be the most successful methods of discovering differences in the behavior of principals and the way teachers react to these differences. It would probably be discovered that principals adopt different "bureaucratic stances" in the way they impose regulations, specify procedures, and make decisions.

As well as examining principal behavior as a mediating variable between bureaucratic structure and teacher behavior, the effect of one other type of variable needs to be taken into consideration. This variable consists of personality measures taken on organizational members. Although the effect of bureaucratization on teacher behavior in this study was not found to be significant across the total sample, it does not necessarily follow that certain types of teachers might not be influenced by the degree of bureaucratization perceived to exist in their school. The use of personality measures would indicate the extent

to which the relationship between bureaucratization and behavior was mediated by individual differences among teachers.

The kinds of personality indices which might be used are those related to dependency, neuroticism, anomie, upward-mobility and authoritarianism. By employing personality as well as situational variables as determinants of organizational behavior, Lewin's model would be more closely adhered to, thus subjecting it to a more thorough test than has been the case with this study.

Regarding the use of LPC in subsequent research, two suggestions can be made. The first is to attempt to validate the Group Atmosphere Scale as it applies to schools to determine if it really measures what it purports to measure. In this study high GA scores were interpreted to mean affective orientation, high regard, acceptability, and favorableness. Yet it is questionable whether all of these terms are applicable to the findings of one instrument. Only if GA scores are compared with other relevant criteria can validity be assumed. These might include the ratings of knowledgeable individuals familiar with the schools, the perceptions of staff members on a variety of attitudinal measures, or more objective criteria such as teacher turnover or number of grievances.

The second suggestion regarding further research using the LPC is to include other measures in addition to GA as a way of assessing the favorableness of the situation for the leader behavior of the principal. Although considered to be the most efficacious variable in mediating LPC and group performance, GA is not the only factor which has been used. The position-power of the leader and the complexity of

the task structure are two others which have been employed. Others available that might be included are the leader's intellectual abilities and technical qualifications, the motivation of the group, and the conditions of stress under which the group might be operating. If the success of a leadership style is contingent on the favorableness of the group situation, then the more that is known about that situation, the more accurately the effects of that leadership can be predicted. And prediction is, after all, one of the reasons for studying the social structure of organizations.

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APPENDIX A

QUESTIONNAIRES

Teachers' Questionnaires:

Instructions

Organizational Climate Description Questionnaire
plus items pertaining to each of the subtests

School Bureaucratic Index

Biographical Information

Principals' Questionnaire:

Instructions and Biographical Information

Group Atmosphere Scale

Least Preferred Co-worker Rating Scale

To the Teacher:

On the following pages is a questionnaire which is part of a study dealing with large high schools in Saskatchewan. The purpose of the study is to investigate the relationship between certain characteristics of teachers and principals and some organizational features of the school.

The following questionnaire describes behaviors or conditions which have been found to be typical of many schools. Some of the items may not seem very significant to you, but all are important in describing the characteristics to be examined. You are asked to indicate to what extent each of these items characterizes your school.

Please be frank in your answers, with the assurance that individual responses are strictly confidential. Each questionnaire will be transferred to IBM cards so that complete anonymity in the analysis of data and the reporting of findings is assured.

This study has been approved by the Department of Education and the superintendent of your school district. The results of the study will be used as part of a graduate thesis in educational administration.

Your cooperation is gratefully acknowledged.

T. R. McKague

INSTRUCTIONS:

- a. READ each item carefully.
- b. DECIDE whether the behavior or condition described occurs very frequently, often, sometimes, or rarely in your school.
- c. CIRCLE one of the four letters following the item to indicate your choice.

A = Very frequently occurs

B = Often occurs

C = Sometimes occurs

D = Rarely occurs

Please respond to every item.

- | | |
|---|---------|
| 1. Teachers' closest friends are other staff members at this school. | A B C D |
| 2. The mannerisms of teachers at this school are annoying. | A B C D |
| 3. Teachers spend time after school with students who have individual problems. | A B C D |
| 4. Instructions for the operation of teaching aids are available. | A B C D |
| 5. Teachers invite other staff members to visit them at home. | A B C D |
| 6. There is a minority group of teachers who always oppose the majority. | A B C D |
| 7. Extra books and other resources are available for classroom use. | A B C D |
| 8. Sufficient time is given to prepare administrative reports. | A B C D |
| 9. Teachers know the family background of other staff members. | A B C D |
| 10. Teachers exert group pressure on non-conforming staff members. | A B C D |
| 11. In staff meetings, there is a feeling of "let's get things done." | A B C D |
| 12. Administrative paper work is burdensome at this school. | A B C D |

13. Teachers talk about their personal life to other teachers. A B C D
14. Teachers seek special favors from the principal. A B C D
15. School supplies are readily available for use in classwork. A B C D
16. Student progress reports require too much work. A B C D
17. Teachers enjoy socializing together during school time. A B C D
18. Teachers interrupt other staff members who are talking in staff meetings. A B C D
19. Most of the teachers here accept the faults of their colleagues. A B C D
20. Teachers have too many committee requirements. A B C D
21. There is considerable laughter when teachers gather informally. A B C D
22. Teachers ask nonsensical questions in staff meetings. A B C D
23. Custodial service is available when needed. A B C D
24. Routine duties interfere with the job of teaching. A B C D
25. Teachers prepare their register returns by themselves. A B C D
26. Teachers ramble when they talk in staff meetings. A B C D
27. Teachers at this school display much school spirit. A B C D
28. The principal goes out of his way to help teachers. A B C D
29. The principal helps teachers solve personal problems. A B C D
30. Teachers at this school tend to stay by themselves. A B C D
31. Teachers accomplish their work with great vim, vigor, and pleasure. A B C D
32. The principal sets an example by working hard himself. A B C D
33. The principal does personal favors for teachers. A B C D
34. Teachers eat lunch by themselves in their own classrooms. A B C D
35. The morale of the teachers is high. A B C D
36. The principal gives constructive criticism of teachers' efforts. A B C D
37. The principal stays after school to help teachers with their work. A B C D
38. Teachers socialize together in small select groups. A B C D
39. The principal makes all class-scheduling decisions. A B C D
40. Teachers are contacted by the principal each day. A B C D
41. The principal is well prepared when he speaks at school functions. A B C D
42. The principal helps staff members settle minor differences. A B C D
43. The principal schedules the work for teachers. A B C D

44. Teachers are free to leave the grounds during the school day. A B C D
45. Teachers help select which courses will be taught. A B C D
46. The principal corrects teachers' mistakes. A B C D
47. The principal talks a great deal. A B C D
48. The principal explains his reasons for criticism to teachers. A B C D
49. The principal attempts to get better salaries for teachers. A B C D
50. Extra duty for teachers is posted conspicuously. A B C D
51. The rules set by the principal are never questioned. A B C D
52. The principal looks out for the personal welfare of teachers. A B C D
53. School secretarial service is available for teachers' use. A B C D
54. The principal runs the staff meeting like a business conference. A B C D
55. The principal is in the building before teachers arrive. A B C D
56. Teachers work together preparing administrative reports. A B C D
57. Staff meetings are organized according to a tight agenda. A B C D
58. Staff meetings are mainly principal-report meetings. A B C D
59. The principal tells teachers of new ideas he has run across. A B C D
60. Teachers talk about leaving the school system. A B C D
61. The principal checks on the subject-matter ability of teachers. A B C D
62. The principal is easy to understand. A B C D
63. Teachers are informed of the results of a supervisor's visit. A B C D
64. The principal insures that teachers work to their full capacity. A B C D

OCDQ TEACHER CHARACTERISTICS

DISENGAGEMENT

1. The mannerisms of teachers at this school are annoying.
2. There is a minority group of teachers who always oppose the majority.
3. Teachers exert group pressure on non-conforming faculty members.
4. Teachers seek special favors from the principal.
5. Teachers interrupt other faculty members who are talking in staff meetings.
6. Teachers ask nonsensical questions in faculty meetings.
7. Teachers ramble when they talk in faculty meetings.
8. Teachers at this school stay by themselves.
9. Teachers talk about leaving the school system.
10. Teachers socialize together in small select groups.

HINDRANCE

1. Routine duties interfere with the job of teaching.
2. Teachers have too many committee requirements.
3. Student progress reports require too much work.
4. Administrative paper work is burdensome at this school.
5. Sufficient time is given to prepare administrative reports. (-)
6. Instructions for the operation of teaching aids are available (-).

ESPRIT

1. The morale of the teachers is high.
2. The teachers accomplish their work with great vim, vigor, and pleasure.
3. Teachers at this school show much school spirit.
4. Custodial service is available when needed.
5. Most of the teachers here accept the faults of their colleagues.
6. School supplies are readily available for use in classwork.
7. There is considerable laughter when teachers gather informally.
8. In faculty meetings, there is the feeling of "let's get things done."
9. Extra books are available for classroom use.
10. Teachers spend time after school with students who have individual problems.

INTIMACY

1. Teachers' closest friends are other faculty members at this school.
2. Teachers invite other faculty members to visit them at home.
3. Teachers know the family background of other faculty members.
4. Teachers talk about their personal life to other faculty members.
5. Teachers have fun socializing together during school time.
6. Teachers work together preparing administrative reports.
7. Teachers prepare administrative reports by themselves. (-)

OCDQ PRINCIPAL CHARACTERISTICS

ALOOFNESS

1. Faculty meetings are organized according to a tight agenda.
2. Faculty meetings are mainly principal-report meetings.
3. The principal runs the faculty meeting like a business conference.
4. Teachers leave the grounds during the school day.
5. Teachers eat lunch by themselves in their own classrooms.
6. The rules set by the principal are never questioned.
7. Teachers are contacted by the principal each day.
8. School secretarial service is available for teachers' use. (-)
9. Teachers are informed of the results of a supervisor's visit. (--)

PRODUCTION EMPHASIS

1. The principal makes all class-scheduling decisions.
2. The principal schedules the work for teachers.
3. The principal checks the subject-matter ability of teachers.
4. The principal corrects teachers' mistakes.
5. The principal insures that teachers work to their full capacity.
6. Extra duty for teachers is posted conspicuously.
7. The principal talks a great deal.

THRUST

1. The principal goes out of his way to help teachers.
2. The principal sets as example by working hard himself.
3. The principal uses constructive criticism.
4. The principal is well prepared when he speaks at school functions.
5. The principal explains his reasons for criticism to teachers.
6. The principal looks out for the personal welfare of teachers.
7. The principal is in the building before teachers arrive.
8. The principal tells teachers of new ideas he has run across.
9. The principal is easy to understand.

CONSIDERATION

1. The principal helps teachers solve personal problems.
2. The principal does personal favors for teachers.
3. The principal stays after school to help teachers finish their work.
4. Teachers help select which courses will be taught.
5. The principal helps staff members settle minor differences.
6. The principal tries to get better salaries for teachers.

INSTRUCTIONS:

- a. READ each item carefully.
- b. DECIDE whether the condition described is representative of the formal structure of your school in your opinion.
- c. CIRCLE one of the four letters following the item to indicate your choice.

A = Strongly Agree

B = Agree

C = Disagree

D = Strongly Disagree

Please respond to every item.

- | | |
|--|---------|
| 1. General procedures in this school are formal and have been clearly defined. | A B C D |
| 2. Because of the complex nature of this school, a program of centralized control and supervision of teachers is necessary. | A B C D |
| 3. In comparison with a "typical" secondary school, this school is smaller, less complex, less impersonal, less formal, and less "bureaucratic." | A B C D |
| 4. Teachers are able to teach in their field of specialization rather than several unrelated subjects. | A B C D |
| 5. Relationships between teachers tend to be formal and are based on professional rather than personal considerations. | A B C D |
| 6. The behavior of teachers is governed by rules and regulations which have been previously established. | A B C D |
| 7. The size of the staff permits an individual teacher to become well-acquainted with nearly every other teacher. | A B C D |
| 8. Procedural devices for teaching situations are developed by individual teachers rather than being explicitly stated beforehand in formal policy. | A B C D |
| 9. Teachers are periodically evaluated to see how well they are doing. | A B C D |
| 10. The position or office of principal is held in high esteem by teachers, regardless of the occupant. | A B C D |
| 11. The principal, by virtue of his position, is prevented from associating freely with teachers in such informal situations as the teachers' lounge, lunch period, after-school functions, etc. | A B C D |
| 12. Specialization is noticeable in this school because of the creation of new positions. | A B C D |
| 13. The school is more like a big family than a formally organized structure. | A B C D |

14. Recognition and advancement are based on a teacher's technical qualifications and merit. A B C D
15. Communication between teachers and principal is formal and oftentimes rather impersonal. A B C D
16. The size of this building creates in an individual teacher the feeling of being a very small member of a large organization. A B C D
17. In order to discuss non-urgent school problems with the principal, teachers generally go "through channels", i.e., discuss matters first among themselves, in committees with department heads, etc. A B C D
18. The teachers encounter an increasing number of requirements, or so-called "red-tape." A B C D
19. This school functions almost automatically and would not be greatly affected if several key staff members were replaced by new ones. A B C D
20. In the actual conduct of school affairs, official rules and requirements are frequently overlooked because the school is much less complex than the rules make it appear to be. A B C D
21. Because of the complexities involved in this school, a system of subordination exists in which there is a supervision of the lower offices (teachers) by the higher ones (administrators). A B C D
22. Teachers are confronted increasingly with new regulations and other devices which are designed to coordinate and control the program. A B C D
23. In solving both major and minor problems, teachers generally go directly to the principal instead of to other members of the school staff. A B C D
24. Procedures and routines are introduced by the principal which cover nearly all situations confronted by teachers. A B C D
25. Communications, including instructions and procedures, within this school are generally written and may be kept on file. A B C D
26. The organization is highly efficient and the teachers may be thought of as components of a machine which stresses efficiency. A B C D
27. The authority to make major decisions is frequently delegated to specialists. A B C D
28. In comparison with hospitals, government offices, and other organizations, this school is not as formal, centralized, and standardized in its operations. A B C D
29. Teachers are encouraged to follow strict operating procedures at all times. A B C D
30. An individual teacher tends to conform to the norms of the organization rather than to deviate from what is regarded as acceptable behavior. A B C D

SOME INFORMATION ABOUT YOU AND YOUR SCHOOL

1. How long have you been in your present school, including this year?

-(1) 1 yr.
-(2) 2 yrs.
-(3) 3 or 4 yrs.
-(4) 5 or 6 yrs.
-(5) 7 or 8 yrs.
-(6) 9 or 10 yrs.
-(7) 11 to 15 yrs.
-(8) 16 to 20 yrs.
-(9) 21 yrs. or more.

2. How many years of teaching experience do you have, including the present year?

-(1) 1 yr.
-(2) 2 yrs.
-(3) 3 or 4 yrs.
-(4) 5 or 6 yrs.
-(5) 7 or 8 yrs.
-(6) 9 to 10 yrs.
-(7) 11 to 15 yrs.
-(8) 16 to 20 yrs.
-(9) 21 yrs. or more.

3. Your sex:

-(1) Male
-(2) Female

4. What is your age?

-(1) under 24 yrs.
-(2) 25-29 yrs.
-(3) 30-34 yrs.
-(4) 35-39 yrs.
-(5) 40-44 yrs.
-(6) 45-49 yrs.
-(7) 50-54 yrs.
-(8) 55-59 yrs.
-(9) 60 yrs. and over.

5. How many years of training are you credited with for salary purposes?

-(1) 1 yr.
-(2) 2 yrs.
-(3) 3 yrs.
-(4) 4 yrs.
-(5) 5 yrs.
-(6) 6 yrs.

6. Compared with other schools known to you, how good a job do you judge your school does in educating the students who come to it? (check one)

-(1) Outstanding
-(2) Very good
-(3) Slightly above average
-(4) Slightly below average
-(5) Poor
-(6) Very poor

7. How well satisfied are you with all aspects of your teaching situation in your present school?

-(1) Enthusiastic
-(2) Satisfied
-(3) Fairly well satisfied
-(4) Somewhat dissatisfied
-(5) Dissatisfied
-(6) Very dissatisfied

8. How effective do you consider your principal to be in performing all the functions he should perform?

-(1) Outstanding
-(2) Very good
-(3) Slightly above average
-(4) Slightly below average
-(5) Poor
-(6) Very poor

Principal's Questionnaire

The purpose of this questionnaire is to examine the attitudes of the principal toward his staff in general and toward his least preferred co-worker in particular. These attitudes have been found to be related to the type of interaction that takes place between leaders and their staffs. This study attempts to discover whether this relationship holds true for secondary schools as it does for other types of organizations.

You are asked to fill in the following information about yourself and your school and complete the Group Atmosphere and Least Preferred Co-worker Rating scales on the following pages. Responses will be kept strictly confidential.

Your cooperation is gratefully acknowledged.

T.R. McKague

1. Number of full time teachers on staff. _____
2. Number of students. _____
3. Number of years spent in your present school including this year. _____
4. Number of years experience:
 - as a teacher _____
 - as a principal _____
5. Degrees held. _____

GROUP ATMOSPHERE SCALE

Use each of the following scales to rate your staff as a group. Put a circle around the number indicating your rating of the relative position of your staff on each scale.

As an example, the relative levels of friendliness may be expressed in words as follows:

----8----:----7----:----6----:----5----:----4-----:----3-----:----2-----:----1----

Extremely	Very	Quite	More	More	Quite	Very	Extremely
Friendly	Friendly	Friendly	Friendly	Unfriendly	Unfriendly	Unfriendly	Unfriendly
			Than	Than			
			Unfriendly	Friendly			

To indicate that your staff is in general quite friendly as a group, you would circle 6.

In the same way, rate your staff on the following ten scales by circling the appropriate number for each item.

Helpful	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Unhelpful
Enthusiastic	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Unenthusiastic
Hostile	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Supportive
Cooperative	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Uncooperative
Distant	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Close
Cold	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Warm
Quarrelsome	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Harmonious
Self-assured	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Hesitant
Interesting	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Boring
Gloomy	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Cheerful

LEAST PREFERRED CO-WORKER RATING SCALE

Think of, but do not name, the person with whom you can work least well. Rate him or her on the following scales by circling the scale values in exactly the same way as you rated the staff as a whole.

Quits easily	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Keeps trying
Energetic	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Tired
Casual	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Dedicated
Practical	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Impractical
Intelligent	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Unintelligent
Calm	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Upset
Confident	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Unsure
Stable	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Unstable
Softhearted	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Hardhearted
Meek	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Forceful
Responsible	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Undependable
Immature	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Mature
Bold	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Timid
Ungrateful	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Grateful
Impatient	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Patient
Thoughtless	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Thoughtful
Frank	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Secretive
Careless	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Careful
Easygoing	--8--:--7--:--6--:--5--:--4--:--3--:--2--:--1--	Quick-tempered
Boastful	--1--:--2--:--3--:--4--:--5--:--6--:--7--:--8--	Modest

APPENDIX B

CORRESPONDENCE

Province of Saskatchewan

DEPARTMENT OF EDUCATION

Regina, October 18, 1966.

Dear Mr. McKague:

This is to acknowledge your letter of October 13th.

Certainly, I remember you and the Department is only too happy to grant you permission to carry out your research in the province.

The names of Superintendents and Principals in large urban school districts are as follows:

(What follows are the names and addresses of superintendents with jurisdiction over large high schools, the names of the high schools and their principals).

Yours faithfully,

(Sgd.) L.W. Ogden,
Acting Director of Examinations
and Registrar.

Mr. T.R. McKague,
Department of Educational
Administration,
University of Alberta,
EDMONTON, Alberta.

Copy of sample letter to Superintendents

February 8, 1967.

Mr. (name)
Superintendent
_____ School District,
_____, Saskatchewan.

Dear Mr. (name):

I am a teacher from Saskatchewan now doing graduate work in educational administration at the University of Alberta. For my doctoral thesis I am doing a study about the behavior of teachers and principals in secondary schools. The exact nature of the study is outlined on the following page.

In order to carry out the research for this study, I am hoping to secure the cooperation of approximately forty high schools in Saskatchewan. Teachers and principals in these schools will be asked to complete one questionnaire each, the responses from which will be kept strictly confidential. It is hoped to have all the data collected by the middle of March.

The study has been approved by the Department of Education and now requires the cooperation of the superintendents, principals and teachers involved. I am asking your permission for the high schools in _____ to take part in this study.

Having secured your approval, the next step would be to obtain the cooperation of the high schools involved. Although I am prepared to get in touch with the principals by mail, I am hoping that you may be able to familiarize them with the nature of the study and secure their cooperation.

What is important at this stage is to secure your permission to carry out this study in _____. I will be glad to give you any further information you might like or answer any questions you may have concerning the study. I am hopeful your reaction to my request will be a favorable one.

Yours sincerely,

(signature)

T.R. McKague

A Study of the Effects of Two Selected Variables on School Organizational Behavior

This is the title of a thesis project in educational administration being carried out by Terry McKague at the University of Alberta. The purpose of the study is to determine how certain variables affect the behavior and attitudes of principals and teachers. The first of these variables is the degree to which the school is characterized by certain bureaucratic features, such as impersonality, specialization, rules and regulations, etc. It is proposed that the behavior of teachers in highly bureaucratic schools will differ from their behavior in schools with few bureaucratic features.

The second variable to be examined is the principal's attitude toward his staff in general and toward his least preferred co-worker in particular. Studies have found that these attitudes have an impact on the kind of interaction that takes place between a leader and his staff. This study will attempt to discover whether this relationship holds true for secondary schools as it does for other types of organizations.

In order to test the assumptions of this thesis, the following information will be needed: (1) the extent to which certain behaviors are engaged in by teachers and principals, (2) the degree of bureaucratization of the school, (3) the attitude of the principal toward his staff, and (4) biographical information about the staff and information about the school. Forty of the largest high schools in Saskatchewan are being asked to assist in this study.

Half the teachers in each school will be required to complete the first questionnaire, while the other half will fill in the second questionnaire. Each principal will be asked to complete two short questionnaires, including some information about the school. It is anticipated that none of the questionnaires should take more than 15 to 20 minutes to complete. To ensure anonymity, each questionnaire will be returned in a sealed unmarked envelope. Questionnaires will be delivered to the school in person or by mail, and no staff meeting will be necessary unless requested by the principal.

It is hoped that the findings of this study will shed some new light on the functioning of large secondary schools in the province.

APPENDIX C

FACTOR ANALYSIS OF OCDQ DATA

Varimax Rotation of OCDQ Data

Varimax Rotation of CCDQ Factors Expressed as Subtests

Rotated OCDQ Factors Related to LPC Scores

TABLE I
VARIMAX ROTATION OF OCDQ DATA
(8 FACTORS)

Items	Factors								Communalities
	1	2	3	4	5	6	7	8	
1	.109	-.193	-.068	.077	-.101	.188	.664	-.030	.547
2	-.016	.556	-.008	.112	-.254	.147	.010	-.037	.409
3	.108	-.331	.029	.071	.441	.026	.086	.343	.447
4	.117	-.152	.589	.060	.096	.049	.210	.189	.479
5	.043	-.070	.031	.054	.305	.040	.609	.091	.484
6	.006	.560	.089	.350	-.057	-.013	-.154	-.207	.514
7	.023	-.191	.646	-.089	-.099	-.118	.168	.201	.554
8	.166	-.029	.499	-.245	-.035	.113	-.032	.057	.355
9	.233	.049	.289	-.042	.052	-.065	.506	-.096	.414
10	.014	.186	.155	.478	-.138	.063	.253	.090	.383
11	.250	-.261	.159	-.080	.197	.258	.059	-.160	.297
12	-.043	.008	-.156	.676	.033	.044	-.087	.006	.494
13	.131	.122	.149	.206	.149	.010	.534	.023	.405
14	.029	.327	.038	.280	.311	-.106	.127	.217	.359
15	.196	-.113	.549	-.018	.230	-.086	-.089	-.071	.426
16	.014	.138	-.130	.539	-.065	-.007	.140	-.336	.464
17	.106	.028	.171	.203	.439	-.033	.251	.006	.339
18	-.005	.454	-.043	.233	.136	-.282	.196	-.064	.403
19	.070	-.367	.158	-.015	.359	-.007	.070	-.079	.305
20	.039	.169	.083	.569	.102	.034	-.035	.101	.383
21	.077	-.141	.074	-.007	.606	.029	.185	.040	.435
22	.069	.631	-.159	.040	-.046	-.087	.008	-.005	.439
23	-.007	-.016	.529	-.040	.230	.029	.071	-.099	.350
24	-.040	.272	-.316	.460	.018	-.030	.087	.089	.404
25	-.063	-.141	.154	.063	.087	.244	-.301	.042	.211
26	-.034	.585	-.417	.167	.152	-.100	.028	.014	.579
27	.267	-.384	.215	.150	.366	.005	.242	-.015	.481

Items	Factors								Communalities
	1	2	3	4	5	6	7	8	
28	.698	-.088	.239	.003	.251	-.074	.012	-.070	.626
29	.588	-.135	.163	.111	-.031	.036	.022	-.097	.415
30	-.106	.354	-.076	.207	-.099	.064	-.045	-.162	.227
31	.289	-.426	.132	.143	.182	.036	.168	-.009	.365
32	.564	-.064	.173	.070	.288	.040	.068	-.192	.483
33	.547	-.062	-.058	.035	.131	.036	.180	.067	.363
34	-.083	.057	.094	.141	-.496	-.031	.224	.057	.339
35	.382	-.263	.299	.023	.468	-.000	.141	-.180	.576
36	.703	-.068	.122	-.004	.148	.032	.063	.189	.576
37	.624	.131	.046	-.002	-.112	-.080	.086	.121	.449
38	-.144	.410	.030	.234	.047	.277	.166	.159	.376
39	-.263	.191	-.238	-.104	.039	.492	.060	-.140	.440
40	.457	.006	.043	-.175	-.118	-.034	.131	-.170	.302
41	.294	-.101	.199	-.017	.197	.367	-.099	-.070	.325
42	.582	.086	-.154	.089	.034	.005	-.051	-.072	.387
43	-.069	.147	-.132	-.089	.090	.352	.182	-.138	.236
44	.152	.259	.215	-.106	.421	-.061	.015	.213	.375
45	.412	-.122	.158	-.032	.243	-.120	-.111	.426	.478
46	.072	.169	-.137	.132	-.071	.507	.067	.359	.465
47	-.098	.118	-.168	.500	.027	-.023	.109	.315	.414
48	.600	.070	.146	-.082	.214	.216	-.020	.114	.499
49	.517	.040	-.116	-.075	.012	-.203	.287	.210	.456
50	.247	-.068	.152	.089	-.184	.177	.124	-.110	.189
51	.212	-.101	-.062	.393	-.048	.228	.103	-.112	.291
52	.697	-.143	-.019	-.092	.156	.030	.035	-.064	.545
53	.138	.012	.259	-.259	.126	.100	.136	-.196	.236
54	.106	-.044	.089	-.067	-.031	.597	.010	-.171	.412
55	.254	.169	.012	-.169	.088	.267	.068	-.556	.514
56	.327	-.099	.143	-.052	-.059	.017	.266	-.037	.216
57	.026	-.119	.051	.182	.008	.551	-.104	.034	.366
58	-.312	.355	-.050	.223	-.008	.479	-.008	.134	.523
59	.576	-.172	.097	.047	-.004	.097	.094	.300	.481
60	-.253	.424	-.369	-.029	-.037	.204	.162	.209	.494
61	.347	.174	.111	.006	.068	.187	.041	.413	.375
62	.508	-.111	.313	-.140	.082	-.043	-.094	-.206	.448
63	.320	-.021	.027	.193	.301	.133	-.005	.047	.252
64	.316	-.229	-.001	.054	-.072	.449	.141	.217	.429
EIGEN VALUES	6.363	3.796	3.177	.0	2.817	2.672	2.433	2.106	26.303

TABLE II
VARIMAX ROTATION OF OCDQ FACTORS
EXPRESSED AS SUBTESTS

Subtest	Item No.	1	2	3	Factors				
					4	5	6	7	8
Disengagement	2		.556						
	6		.560						
	10				.478				
	14		.327			-.311			
	18		.454						
	22		.631						
	26		.585	-.417					
	30		.354						
	60		.424	-.369					
	38		.410						
Hindrance	24			-.316	.460				
	20				.569				
	16				.539				
	12				.676				
	-8			.499					
	-4			.589					
Esprit	35	.382				.468			
	31		-.426						
	27		-.384			.366			
	23			.529					
	19		-.367			.359			
	15			.549					
	21					.606			
	11								
	7			.646					
	3		-.331			.441			
Intimacy	1							.664	
	5					.305		.609	
	9							.506	
	13							.534	
	17					.439			
	56	.327							
	-25							-.301	

TABLE II (cont'd)

Subtest	Item No.	1	2	3	4	5	6	7	8
Aloofness	57						.551		
	58		.355				.479		
	54						.579		
	44					.421			
	34					-.496			
	51				.393				
	40	.457							
	53								
	63	.320				.301			
Production	39						.492		
Emphasis	43						.352		
	61	.347							.413
	46						.507		.359
	64	.316					.449		
	50								
	47				.500				
Thrust	28	.698							
	32	.564							
	36	.703							
	41						.367		
	48	.600							
	52	.697							
	55								-.556
	59	.576							.300
	62	.508		.313					
Consider- ation	29	.588							
	33	.547							
	37	.624							
	42	.582							
	45	.412							.426
	49	.517							

APPENDIX D

FACTOR ANALYSIS OF BUREAUCRATIC DATA

Varimax Rotation of Bureaucratic Data (10 Factors)

Varimax Rotation of Bureaucratic Data (5 Factors)

TABLE I

VARIMAX ROTATION OF BUREAUCRATIC DATA

(10 FACTORS)

Items	1	2	3	4	5	Factors				10	Commun- alties h
						6	7	8	9		
1	.103	-.064	.345	.032	.227	.097	.229	.273	-.489	.086	.569
2	.244	.313	.072	.030	-.050	.016	.342	.540	.012	.010	.575
3	-.008	-.663	-.229	.285	-.137	-.073	.099	-.070	.161	-.178	.670
4	-.103	-.046	.186	.112	.548	-.012	.068	.062	-.118	.148	.405
5	.184	.312	-.015	.319	-.143	.313	.289	-.252	.078	.050	.507
6	.435	-.048	.169	.175	-.126	.403	.098	-.143	-.276	.059	.539
7	-.166	-.716	.071	.005	.120	-.102	.028	-.020	.058	.149	.597
8	.008	-.186	.099	.101	.273	-.494	.120	-.042	.333	.170	.528
9	.043	-.082	-.066	-.072	.054	.058	.007	.020	-.203	.796	.700
10	-.044	.014	.055	.703	.086	.037	.088	.077	-.145	-.052	.545
11	.111	.180	.013	-.127	-.319	.282	.099	-.339	.261	.283	.515
12	.021	.172	.102	.308	.005	-.209	-.096	.345	.172	.481	.569
13	-.066	-.384	-.093	.320	.242	-.011	.010	.305	.061	-.088	.426
14	-.182	-.138	.184	.604	-.008	-.106	-.092	.021	-.017	.075	.477
15	.292	.174	.030	.085	-.463	.161	-.161	-.141	.178	.322	.545
16	.340	.558	.047	.136	-.211	-.003	-.056	.055	.098	.019	.509
17	.366	.166	.193	.199	.063	.108	-.558	-.046	.003	.076	.574
18	.645	.258	.039	-.263	.055	-.136	-.180	-.143	.003	.147	.651
19	-.114	.149	.064	-.053	.065	.689	-.204	.088	.178	.028	.603
20	.009	-.114	.004	-.124	.057	.130	.057	.104	.778	-.109	.680
21	.605	.206	-.076	-.025	.030	.223	-.089	.076	-.078	-.066	.489
22	.685	.098	.055	-.129	-.180	-.071	-.073	.120	.044	.020	.558
23	-.194	-.046	.029	.117	.250	-.091	.701	-.139	.025	-.006	.636
24	.255	-.030	.510	.090	-.180	.010	.386	.092	-.143	.023	.545

TABLE I (CONT'D)

Items	Factors										Commun- alities h^2
	1	2	3	4	5	6	7	8	9	10	
25	-.076	.012	.714	.065	.065	-.086	-.228	.007	.003	-.147	.605
26	-.009	.098	.608	.259	.107	.149	.036	.188	-.019	.084	.523
27	-.002	-.032	.101	.050	-.013	.075	-.135	.695	.011	.071	.526
28	.062	-.084	-.216	-.030	.624	-.051	.005	-.140	.300	-.020	.558
29	.262	.109	.500	-.143	-.329	.163	.062	-.085	-.007	.068	.502
30	.420	-.139	.161	.004	-.089	.494	.121	.037	.096	.088	.507
Eigen Values	2.343	2.001	1.844	1.601	1.592	1.586	1.489	1.455	1.446	1.275	16.634
Proportion of Total Variance	.078	.067	.061	.053	.053	.052	.049	.048	.048	.042	.554

TABLE II

VARIMAX ROTATION OF BUREAUCRATIC DATA

(5 FACTORS)

Items	Factors					Communalities h^2
	1	2	3	4	5	
1	.033	.080	.364	-.238	.539	.487
2	.328	.144	.207	-.083	.282	.257
3	-.470	.101	-.050	.476	-.057	.464
4	-.062	-.175	.294	.110	.335	.245
5	.016	.558	-.060	-.091	-.025	.324
6	.110	.590	.088	-.169	.101	.407
7	-.376	-.086	.087	.462	.158	.395
8	.021	-.210	.075	.530	.247	.392
9	.240	.063	.031	.142	.239	.140
10	-.254	.148	.471	.002	.092	.317
11	.150	.478	-.303	.011	-.213	.388
12	.306	-.061	.448	.233	.034	.353
13	-.258	-.135	.332	.355	.062	.325
14	-.278	.037	.500	.112	-.032	.341
15	.333	.442	-.042	.004	-.311	.405
16	.484	.223	.062	-.209	-.155	.355
17	.426	.081	.326	-.057	-.346	.418
18	.719	.084	-.199	-.007	.029	.564
19	-.005	.232	.144	-.110	-.422	.265
20	.012	.096	-.065	.517	-.317	.381
21	.494	.254	-.029	-.089	-.051	.320
22	.616	.239	-.049	.040	.011	.440
23	-.372	.114	-.117	.151	.546	.486
24	.070	.449	.244	-.133	.410	.452

TABLE II (CONT'D)

Items	Factors					Communalities h^2
	1	2	3	4	5	
25	.005	-.014	.484	-.187	-.033	.270
26	.035	.226	.599	-.117	.130	.442
27	.171	-.127	.483	.031	-.030	.281
28	.009	-.232	-.133	.458	.050	.284
29	.245	.470	.073	-.241	.017	.344
30	.167	.589	.069	.107	-.025	.392
Eigen Values	2.798	2.404	2.272	1.752	1.711	10.936
Proportion of Total Variance	.093	.080	.075	.058	.057	.364

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